



ANNUAL REPORT
OF THE
PUBLIC WORKS DEPARTMENT

FOR THE
YEAR ENDING DECEMBER 31, 1940.

BOSTON, January 2, 1941.

HON. MAURICE J. TOBIN,
Mayor of the City of Boston.

DEAR MR. MAYOR,—In compliance with the provisions of Section 24 of chapter 3 of the Revised Ordinances of 1925, I respectfully submit the Annual Report of the Public Works Department for the year ending December 31, 1940.

ORGANIZATION.

The department, in existence since February 1, 1911, was created under the provisions of chapter 9 of the Ordinances of 1910. There are five divisions, namely, Bridge and Ferry, Highway, Sanitary, Sewer, and Water, each under the direct supervision of a division engineer.

RECEIPTS, EXPENDITURES, PERSONNEL.

The total budgetary expenditures for the year were \$7,315,477.26. The deficit resulting from the operation of the Sumner Tunnel amounted to \$255,525.23, which is \$59,520.38 less than the deficit incurred in the

previous year, and \$182,343.68 less than the deficit for the year 1937, which was the last year of the previous administration. The total revenue collected at the tunnel was \$960,384.66.

The Water Division for the third successive year showed a surplus of \$418,454.34, making a total surplus of \$1,830,635.34 for the three years of the present administration. The deficit for the year 1937 amounted to \$54,399.27 and the total deficit for the seven years previous to the start of the present administration was \$702,390.94. The total water collections amounted to \$4,781,638.74.

The budgetary expenditure made in connection with the operation of the East Boston Ferry was \$222,253.83, while the revenue receipts amounted to \$24,862.07. The resulting deficit of \$197,391.76 represents the lowest deficit of the past ten years.

As the result of the issuance of street permits, the department received \$17,306.64 in revenue and the total department revenue from all sources amounted to \$6,019,268.45.

As of December 31, there were 2,206 employees in the department. This represents a loss of 103 employees during the year due to deaths, resignations, retirements, etc.

ACTIVITIES, ETC.

The worst snow storm in the history of the department occurred on February 14 and 15.

According to the official Weather Bureau report, the storm started at 3.18 p. m. on the 14th. At the outset, the storm had all the appearances of a blizzard; fine particles of snow driven by a wind of gale velocity. In view of this, the Weather Bureau at the East Boston airport was called at about 4 p. m. to find out if there was any change in the early forecasts, which did not predict a big storm. The attendant, even at that hour, reported that they did not expect over three or four inches of snow. Despite this report, however, all city employees, who normally finished their work day at 4.30, were told to report back at 7 p. m. Some of these employees operate the 45 city plows that are used for plowing in the City Proper and the others supervise the plowing work done by the 180 contractors' trucks that are used for plowing in the suburban areas.

All contractors assigned to plowing work were ordered

out at 5 p. m. and 92 per cent of them had actually started to plow by 8 p. m., at which time there were only $3\frac{1}{2}$ inches of snow on the ground. Ordinarily, this depth of snow would have presented no problem. The progress was most discouraging, however, due to parked cars on the sides of the streets and cars abandoned right in the centers of the roadways. Many of the cars that were abandoned were disabled, due to the driving snow sifting in through the radiator grilles and through the openings in the hood and wetting the ignition system. We had the same difficulty with our own trucks that were ploughing. At one time, 18 of the 45 city plows were disabled because of wet ignitions or because they were stuck in snow banks where they had to drive to pass stalled passenger cars and trucks.

As stated before, only $3\frac{1}{2}$ inches of snow had fallen up to 8 p. m. The greatest depth of snow in any one hour, according to the Weather Bureau, fell between 10 and 11 o'clock at night; the heaviest snowfall occurring between the hours of 8 p. m. and midnight. The wind reached a maximum of 51 miles per hour at 8.54 p. m., with an average velocity of 40 miles per hour for the entire storm.

It may be seen, therefore, that the storm was most severe during the busiest time of the day from a traffic standpoint. Motorists going home from work, to theatres, etc., were wholly unprepared for a storm of the intensity or severity of the one encountered.

At no time during the storm did the wind abate to any marked degree and at no time during the storm did the type of flakes vary to any extent. Fine flakes driven by gale force made it impossible to make any headway plowing. According to the Weather Bureau, 10.6 inches of snow fell up to midnight, and 3.4 inches from midnight until 10.20 on the morning of the 15th, at which time the storm ended.

The department officials realized at 10.30 p. m. that the storm was a most unusual one with a possibility of its developing, which it eventually did, into the worst storm in the history of the department. The truck plows were making but little headway in the suburban districts and in the intown district. The only piece of equipment that could plow was a bulldozer and we started calling up various contractors for the hire of tractor type bulldozers. We were not successful in getting bulldozers as the contractors were unable to trans-

port them to the various locations and they were not keen on coming out on such a night.

As it was impossible to make any headway in plowing the residential streets, the plows were assigned to the main highways throughout the night in an effort to keep them open. Some headway was made on those streets after all plowing operations were concentrated on them. At least, many of the main arteries were open to traffic on Thursday morning and they never would have been if we had not concentrated on them.

One might reasonably say, "Well, the trouble was that your plows were not powerful enough for that type of a storm". In answer to such a statement, I submit the following:

The Boston Elevated Railway Company owns fifty of the most powerful types of plows used in this state. They are attached to trucks of a 7 to 10-ton capacity which are a combination sanding and plowing unit. They cost from \$12,000 to \$14,000 apiece. An official of that company called me by telephone at 3.30 a. m. on Thursday morning and stated that his plows were all bogged and stuck in various locations throughout the city. They were unable to keep bus lines or street car lines opened. He told me that three of his plows were stuck in a traffic jam in Central square, Cambridge, caused, apparently, by disabled and abandoned passenger cars and trucks. He said, further, that it was the worst storm they ever encountered and that everything was at a standstill. He also told me that he received permission, that night, from the General Manager to purchase another Walter Snow Fighter (price approximately \$14,000) and this truck also got stuck in Central square on the way from the showroom, making a total of four of their expensive, powerful plows stuck in Central square. If plows of this type were unable to make headway, one could not reasonably expect this department, with its lighter plowing equipment, to have all streets opened for the flow of vehicular traffic in time for the opening of business on Thursday morning. It was a night full of insurmountable obstacles and I am convinced that no matter what kind of plowing equipment we had working, the conditions on Thursday morning would not have been any better than they were. We put every available man and piece of equipment to work on Wednesday night

and Thursday morning in an effort to open the highways. No one could have done better, under the circumstances.

At 11 o'clock Wednesday night, I personally called every snow removal contractor and told him to be ready to start to work the first thing in the morning. The time of the day, on Thursday, that each contractor dumped his first load of snow was as follows:

J. J. Callahan	3.12 p. m.
E. Carriere	7.30 p. m.
Ward General Contracting Company	4.00 p. m.
J. J. Deveney	3.15 p. m.
Walter Reed	1.30 p. m.
F. Jacobs	5.00 p. m.
Edward Matz	3.12 p. m.
Baker & Co.	2.55 p. m.

These contractors were just as anxious to start early as we were anxious to have them start, but the fact remains that the average one did not start until approximately 4 p. m., despite my notifying them the night before. There were several reasons for the late starting times, among them being that the contractors were unable to get trucks from outlying towns and the roads were impassable in the towns and cities adjacent to Boston. Many truck owners were unable to get their trucks out of their garages until late Thursday, and many of the contractors had trouble in arranging for the transportation of their mechanical snow loaders. In an ordinary storm, these loaders can be transported without any difficulty by means of a trailer but it was impossible, due to impassable roads caused by abandoned cars and trucks, to use a trailer until Thursday afternoon.

Although the contractors were delayed until Thursday afternoon on snow removal work, city forces were actually engaged on the removal work on Washington Street in front of the Boston *Post* building at 4 a. m., Thursday morning. A crew of laborers and three trucks were assigned to that location, in order to allow trucks to be loaded that carry copies of the *Post* to the distribution points. Two city-owned snow loaders, manned by city employees, left the Albany street yard at 3.30 a. m. and were assigned on Washington street at Summer to start on snow removal. They

arrived at their destination at 5 a. m. and actual operations started at that time, 1 loader working up Washington street toward State and the other down Washington street toward Summer. The operators of these loaders were fully exposed to the elements in their trip from Albany street to Washington street. In fact, I observed one of the operators still running the loader on Court street at 3 a. m. on Friday morning; having worked at least 24 hours steadily under the most adverse conditions imaginable. Incidents like this were common, however. I have the greatest respect and admiration for the foremen, supervisors, and the rank and file of the employees of this department for their devotion to public duty, as exemplified by the work they did to fight the overwhelming forces of nature which resulted in this severe snow storm. Many of the district foremen, some of whom are advanced in years, worked tirelessly and to the point of exhaustion. They did everything that it was possible for men to do under the conditions that prevailed. Most of the foremen had the streets of their districts opened to vehicular traffic by Saturday night; in fact, all of the streets in the Hyde Park district were opened by Friday night and the streets in the city proper opened by Thursday night. All streets in the city were opened not later than Sunday night. To accomplish this, it became necessary for us to hire every available bulldozer, not only in Metropolitan Boston, but in the state. We secured bulldozers from as far off as the town of Huntington, which is in the western part of the state. Others came from Framingham, Natick, and Weymouth. Through the cooperation of the *Boston Post* a news article was inserted asking all persons who had bulldozers for hire to contact the department. Besides this, we had two employees on the telephone all day Thursday and Friday, calling various contractors and owners of equipment for the purpose of hiring bulldozers. That we were successful in obtaining a sufficient number is attested to by the fact that we hired 36 of them varying in horse-power from 35 to 140. We had the largest bulldozers in the state plowing our streets. We obtained them as soon as it was possible to do so; no expense being spared to open the streets.

The policy, adopted by the present administration, of extending the contract system in districts where the

collection of rubbish and garbage was being done by City forces, was continued. Bids for the collection of the above-referenced waste materials in the Back Bay and part of the Roxbury district (called Dudley) were opened on December 23, and the contracts were awarded on December 30. A most progressive step was made by the department, insofar as the collection of waste materials is concerned, when contracts were awarded for the year 1941, without publicly advertising for bids, to the same contractors who did the collection work in the various districts in 1940; the contract prices being the same as those paid in 1940. In contracts of this kind, price is of secondary consideration, as the service rendered by the contractor to the general public should be of prime importance when considering awarding such contracts. The work of the contractors in 1940 was most satisfactory and, in view of this, the department was justified, in the best interests of the public, to award the contracts for 1940 without publicly advertising for bids, particularly in view of the fact that the prices for which the collection contractors were doing the work were received, in December of 1939, as the result of publicly advertised bids. The department continued the policy, adopted by the present administration, of modernizing its street cleaning equipment, as evidenced by the purchase of 3 mechanical street sweeping machines.

As a result of W. P. A. projects, the department constructed 27 miles of streets, 43,649.38 feet of sewers and surface drains. A project was started providing for the demolition of the stable at the Highland street yard and the erection, in its place, of a modern garage suitable for storing approximately 50 trucks. A project was also started which provides for the construction, at the Western avenue yard, of a modern office and storage building for the Water, Paving, Sanitary, and Sewer Services of the Brighton district. At the close of the year, satisfactory progress was being made on the two latter-referenced projects. A project was started in December for the construction of a pedestrian overpass across Old Colony avenue and Columbia road adjacent to the Old Harbor Village Housing Project. This overpass will provide a safe means of access for the hundreds of mothers and children residing in Old Harbor Village who have occasion to go to and from the Columbus Stadium and the beaches that are located along the strandway. In order to provide for the safe passage of

baby carriages, ramps, at a grade of approximately 10 per cent, have been constructed instead of stairways. At the end of the year, satisfactory progress was being made, and it is anticipated that the overpass will be completed in the summer of 1941.

After the American Legion parade, which was held on Tuesday, September 24, the department forces collected 208.4 tons of debris, consisting of ticker tape, torn telephone books, cardboard and manila boxes, etc., from the streets in the intown section. The employees of the Street Cleaning Service deserve special commendation for the efficient and expeditious job that they did in removing the debris from the streets. The parade was over at about 9.30 p. m. on Thursday, and the streets of the city were completely cleaned by 7 a. m., on Friday morning.

For the first time in the history of the department a registration period for emergency snow shovelers was held during the week of November 18. During this week, all citizens and voters of the city who desired work during the winter on snow removal, were required to register at the district paving yards. That the registration system was a success is evidenced by the 10,249 persons who registered during that week. After the registrant's name had been certified, a so-called work card was sent to his home, containing his name, address, and location to which he was to report if needed for snow shoveling work. This system, unquestionably, will eliminate all of the weaknesses of the so-called "button" system in effect heretofore.

Among other improvements adopted by the department during the current year concerning snow removal and plowing work are the following:

1. The establishing of a special contract snow removal area in the heart of the rental business section of the City Proper, which will include the so-called "ladder" streets. This area extends from Broadway to Brattle street and from Tremont street on the westerly side to Harrison avenue and Devonshire street on the easterly side. Formerly snow removal in this area was done almost entirely by day labor forces comprised of regular city employees and emergency workers.

2. The insertion into the contract document of provisions with sufficient "teeth" in them to assure proper prosecution of the work by the contractor.

To this end, provisions were included that will require the contractor to pay liquidated damages in the event that he defaults on the contract or fails to do the work in accordance with its specifications.

3. The insertion into the contract document of provisions which will give to the city better control of the contractors' operations, thereby allowing for the correlation of the activities of all the contractors. Hereafter, the contractor will not be allowed to remove snow from any street unless a written order to that effect has been issued to him by an authorized representative of the city.

4. The drafting of a bill, to be acted on by the incoming Legislature, authorizing the city to award contracts for a five-year period for the removal of snow.

5. The construction, at an estimated cost of \$24,000, of a tidewater dump at the site of the abandoned wharf of the North Ferry, at the foot of Battery street.

6. The use of city employees only on contract snow removal work in the capacity of inspectors and checkers.

7. The requiring of all city employees assigned to the work to attend instruction classes that were held from November 1 to November 15. In addition to receiving verbal instructions, written instructions were also issued to each employee.

8. The establishment in each contract area of an Accounting Unit to compile and summarize reports and to do all the office clerical work in connection with the contract specifications.

9. The preparing of a bill, to be submitted to the incoming Legislature, providing the Police Department with authority to order taken off the streets and placed in storage, at the expense of the owners or operators, parked motor vehicles which interfere with snow removal activities.

Appended hereto are reports submitted by the division engineers relative to the activities of their divisions, as well as tables containing financial and statistical information.

Respectfully submitted,

GEORGE G. HYLAND,
Commissioner of Public Works.

The records of the department show that there are now 2,206 persons eligible for employment in the several divisions, and of that number 2,159 were upon the January, 1941, pay rolls.

Grade and Number of Employees.

TITLE.	SERVICES.									
	Central Office.	Paving and Lighting.	Sewer.	Sanitary.	Street Cleaning.	Bridge.	Ferry.	Tunnel.	Water.	Total.
Commissioner	1									1
Division engineers		1	1	1		1			1	5
Engineer, chief		1	1							2
Assistant engineers (civil)		12	24	1		12			6	55
Draftsmen		2	8			1			1	12
Instrumentmen		11	15			2			3	31
Rodmen		5	5			2				12
Blueprinters			4							4
Superintendents		2								2
Supervisors	1	2		1						4
General foreman									1	1
Foremen		11	7	11	12	1		1	7	50
Chief inspectors		1	1							2
Inspectors-subforemen		46	30	42	24	2		2	19	165
Executive secretary	1								1	2
Chief clerks		1	1						2	4
Executive clerks	2	1	1			1			2	7
Clerks-stenographers	6	27	12	6	1	2	1	5	48	108
Telephone operators		1							1	2
Cashiers and assistants				1			1	1	2	5
Storekeeper				2			1		1	4
Patternmaker									1	4
Veterinarian-medical inspectors					2					2
Chemists and assistants		1								1
Cement testers and assistants			5							5
Captains							4			4
Quartermaster-pilots							4			4
Deckhands							11			11
<i>Carried forward</i>	11	125	115	65	39	24	22	9	96	506

Grade and Number of Employees—Concluded.

TITLE.	SERVICES.									
	Central Office.	Paving and Lighting.	Sewer.	Sanitary.	Street Cleaning.	Bridge.	Ferry.	Tunnel.	Water.	Total.
<i>Brought forward</i>	11	125	115	65	39	24	22	9	96	596
Matrons.....							4			4
Engineers (steam)		8	5				4			17
Oilers.....			10				5			15
Firemen.....		1	6				11			18
Gatemen-tollmen-guards			5				11	35		51
Gatemen-filth hoisters			5							5
Meter readers.....									34	34
Drawtenders and assistants						140				140
Chief and electricians.....			2			1		13		16
Master mechanics.....		3		1			1		3	8
Auto mechanics-repairers.....		25	3	1	2					31
Blacksmiths-horseshoers.....		4	1	16			1		2	24
Carpenters-joiners.....		12	3	1		11	5			32
Harnessmaker and assistants.....				1						1
Machinists.....			4			1	5	2	10	22
Painters.....		6		7		2	2			17
Pavers.....		33				1				34
Plumbers-pipefitters.....							2		148	150
Riggers-roofers.....							2			2
Sewer cleaners-flushers.....			22							22
Catch basin cleaning machine oper- ators.....			7							7
Stonecutters-brick masons.....		5	8	1					1	15
Wheelwrights and assistants		2		5						7
Head chauffeurs.....		5			1					6
Chauffeurs, etc.....		66	29	75	68	5		15	21	279
Working foremen laborers.....		1	2		1	3				7
Laborers, teamsters, etc.		168	61	208	159	5	6	3	87	697
Wharfingers.....				2						2
Yardmen and yardmasters.....		5	2	2	1				2	12
Constables.....		1	1		14				9	25
Totals	11	470	291	385	285	193	81	77	413	2,206

**Number of Employees Actually Employed January 1, 1940, and
January 1, 1941.**

	Tunnel.	Central Office.	Bridge.	Ferry.	Water.	Paving and Lighting.	Sanitary.	Street Cleaning.	Sewer.	Total.
January 1, 1940,	79	11	202	76	413	485	412	294	300	2,272
January 1, 1941,	75	11	191	78	406	458	378	277	285	2,159

Total Eligible Force.

January 1, 1940,	80	11	202	79	422	492	416	302	304	2,309
January 1, 1941,	77	11	193	81	413	470	385	285	291	2,206

**Appointments, Transfers, Resignations, Retirements, Deaths, etc., of
Employees.**

Died.	Retired.	Transferred to Other Depart- ments.	Transferred to Other Services.	Discharged.	Resigned.	January 1, 1940.	SERVICES, 1939-1940.	January 1, 1941.	Transferred from Other Services.	Transferred from Other Depart- ments.	Reinstated.	Appointed.
...	...	...	...	...	...	11	Central Office,	11				
8	1	...	1	...	1	202	Bridge,	193	1	...	...	1
...	2	...	...	...	...	79	Ferry,	81	...	3	...	1
7	16	...	13	2	5	493	Lighting and Paving,	470	9	2	5	4
8	9	11	26	2	2	416	Sanitary,	385	19	...	...	8
4	14	5	19	4	1	302	Street Cleaning,	285	29	...	...	1
3	7	4	2	...	1	304	Sewer,	291	1	2	1	
6	10	2	1	4	5	422	Water,	413	3	4	1	11
1	...	2	...	...	1	80	Tunnel,	77	...	1		
37	59	24	62	12	16	2,309	Totals,	2,206	62	12	7	26

APPROPRIATIONS AND EXPENDITURES.

CURRENT EXPENSES.

DIVISION OR SERVICE.	Total Credits.	Expenditures.	Unexpended Balance.
Central Office	\$32,431 90	\$32,345 56	\$86 34
Bridge Service	439,721 88	431,321 71	8,400 17
Ferry Service	225,656 52	222,253 83	3,402 69
Tunnel Service	236,817 00	229,635 64	7,181 36
Highway Division	1,660,342 10	1,634,608 28	25,733 82
Lighting Service	926,008 00	925,469 83	538 17
Sanitary Division	2,005,106 27	1,996,008 22	9,098 05
Sewer Division	784,750 72	762,785 41	21,965 31
Water Division	1,090,627 00	1,081,048 78	9,578 22
Totals	\$7,401,461 39	\$7,315,477 26	\$85,984 13

EXPENDITURES FROM SPECIAL APPROPRIATIONS, ETC.

Water Division:

Metropolitan Assessment, interest on serial loans, Collecting Department expense, etc.	\$3,281,263 87
Bridges, repairs, etc.	43,959 17
Ferry improvements	7,408 58
Reconstruction of streets revenue	5,133 64
Snow removal	1,196,749 51
Bridges, reconstruction and repair of (P. W. A.)	23,511 41
Chelsea North Bridge, water pipe trestle, reconstruction of (P. W. A.)	500 16
Construction, reconstruction and replacement of sewers and covering of open water courses (P. W. A.)	24,946 46
Replacement of Brookline avenue water main from Brookline line to Beacon street (P. W. A.)	13,000 00
Sewerage Works, non-revenue	127,240 92
Water main construction (P. W. A.)	26,000 00
Highways, making of	19,607 75
Total	<u>\$4,769,321 47</u>

REVENUE.

On Account of the Public Works Department.

Central Office:		
Sale of plans, etc.		\$426 00
Bridge Service:		
Clerical service	\$250 00	
Albany Street Bridge	114 47	
Dorchester Avenue Bridge	80 00	
Charlestown Bridge:		
Rents	\$1,200 00	
Meridian Street Bridge	33,780 57	
Chelsea North Bridge	43,507 46	
Malden Bridge	267 63	
L Street Bridge	99 58	
Mystic Avenue Bridge	53 13	
Junk	12 80	
		<hr/>
		79,365 64
Ferry Service:		
Tolls	\$24,549 20	
Rent	251 17	
Cleaning telephone booths	32 00	
Commission on telephones	29 70	
		<hr/>
		24,862 07
Summer Tunnel:		
Tolls	\$960,384 66	
From state	50,000 00	
		<hr/>
		1,010,384 66
Lighting Service:		
Damage to posts		117 00
Paving Service:		
From assessments on abutters for		
cost of laying sidewalks in front of		
their premises, including material		
for same	\$7,828 28	
Permits	17,339 99	
Sale of material, etc.	1,942 49	
Labor and materials furnished	1,200 00	
Refunds	17 41	
Repair of signs, etc.	16 43	
Rent of land	520 00	
Rent of signs	140 00	
		<hr/>
		29,004 60
Sewer Service:		
Disposal of sewerage	\$20,837 00	
Labor and materials furnished	583 92	
Entrance fees	3,030 24	
Junk	186 25	
		<hr/>
		24,637 41
Sewerage Works:		
Assessments under chapter 450, Acts		
of 1899:		
Added to taxes	\$35,846 12	
Paid in advance	3,376 28	
		<hr/>
Carried forward		\$39,222 40

<i>Brought forward</i>		\$39,222 40
Unapportioned	\$3,318 26	
Rent	260 00	
Services of inspector	522 74	
Federal Grant	3,662 90	
Over payment on contract	1,760 72	
	<hr/>	48,717 02
Sanitary Service:		
Collection of commercial waste	\$17,827 79	
Sale of junk, etc.	738 50	
Sale of manure	1,181 21	
Sale of garbage	62 84	
Sale of horses	275 00	
	<hr/>	20,085 31
Water Service:		
Water rates	\$4,399,639 55	
Water added to taxes	270,803 18	
Tax Titles	18,161 48	
Service pipes for new water takers, extending, repairing, etc.	43,030 35	
Fees on overdue rates	11,080 19	
Sale of junk, etc.	10,844 44	
Elevator and fire pipe connections	6,638 39	
Damage to property	312 59	
Relocating hydrants	103 28	
Labor and materials	20,125 52	
Testing meters	352 50	
Weighing fees, etc.	547 27	
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Total		<u>\$6,019,268 45</u>

PART II.
APPENDICES.

APPENDIX A.

REPORT OF THE DIVISION ENGINEER OF THE
BRIDGE AND FERRY DIVISION.

BOSTON, January 2, 1941.

To the Commissioner of Public Works:

DEAR SIR,—I respectfully submit the following report of the income, expenditures and operation of the Bridge and Ferry Division for the year ending December 31, 1940. The appropriations and expenditures of the Division were as follows:

Bridge Service.

Balance, 1939	\$4,720 34
Regular appropriation, 1940	498,749 50
Transfers to	3,145 44
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	\$506,615 28
Transfers from	66,893 40
	<hr/>
	\$439,721 88
Expenditures	431,321 71
	<hr/>
Balance	<u><u>\$8,400 17</u></u>

Bridges, Repairs, Etc.

Balance from 1939	\$32,237 96
1940 appropriation	20,000 00
	<hr/>
	\$52,237 96
Expenditures	43,959 17
	<hr/>
Balance	<u><u>\$8,278 79</u></u>

Bridges, Reconstruction and Repair of, P. W. A.

Expenditures	\$23,511 41
Balance	<u><u>\$11,852 77</u></u>

Ferry Service.

Balance from 1939	\$2,021 62
Regular appropriation	225,634 90
	<hr/>
	\$227,656 52
Transferred from	2,000 00
	<hr/>
	\$225,656 52
Expenditures	222,253 83
	<hr/>
Balance	<u>\$3,402 69</u>

Ferry Improvements.

Balance from 1939	\$7,408 58
Expenditures	7,408 58
	<hr/>
Balance	<u>\$0 00</u>

Sumner Traffic Tunnel.

Regular appropriation	\$236,817 00
Expenditures	229,635 64
	<hr/>
Balance	<u>\$7,181 36</u>

The above does not include certain expenditures for construction work for other divisions and departments, which work was supervised by the engineers of this division.

Under orders of the Department of Public Utilities, Commonwealth of Massachusetts, schedules of tolls and charges for the use of the Sumner Traffic Tunnel, between Boston Proper and East Boston, were approved, covering the year 1940.

The city has been operating only one ferry, the so-called "South Ferry," since early in 1933, with the Boston terminus at Eastern avenue and the East Boston terminus at Lewis street.

A change of boat operation was put into effect April 29, 1938. This calls for a 30-minute boat schedule daily, starting from East Boston at 6 a. m. and 6.15 a. m. from Boston; this boat continues to operate until 10 p. m. daily. A second boat starts from East Boston at 7.15 a. m., permitting of a 15-minute schedule, and continues until 11 a. m. At 2 p. m. it resumes operation and remains in operation until 6.15 p. m. The second boat does not operate on Sundays or holidays.

The following Federal Relief Projects were sponsored by this division during the year:

WORKS PROGRESS ADMINISTRATION.

Project 15778 (18869).

Legal History and Cost Records of City of Boston Bridges.

The reasons for this project were given in the 1938 report. The work was supposed to be finished in 1939, but as the compiling of this history involved considerable time and work, the project was extended under a new number (18869). The work was completed September 19, 1940.

Highway Division Project.

Acting under directions of his Honor the Mayor in a communication to the Commissioner of Public Works, dated May 21, 1938, a committee, consisting of Messrs. George G. Hyland of the Survey Committee (now Commissioner of Public Works), Division Engineer William T. Morrissey of the Highway Division and Division Engineer Thomas H. Sexton of the Bridge and Ferry Division, was appointed by the Mayor to study all bridges in the city and make such recommendations as would tend to eliminate the hazards existing on bridges. Mr. Thomas H. Sexton was elected chairman of this committee. Safety curbs were installed on Dover Street Bridge in 1938; on Dorchester avenue, Chelsea South, Chelsea North, Chelsea Viaduct, in 1939, and on Prison Point, Warren, Charlestown and Broadway Bridges in 1940. The city's share of this work is paid from Item H, Highway Division.

Project 20603.

Dorchester Avenue Bridge, Over Fort Point Channel, Paving District No. 8, Boston. Repairing and Redecking Two Draw Spans.

This project was approved in 1939 and was for the removal of all timber of roadway, except that part maintained by the Boston Elevated Railway Company, replacing angle-iron seats, sealing and painting steel work and replacing deck with new lumber (except that part maintained by the Boston Elevated Railway Company). The work was completed in September of this year.

Project 22323.

Construction of a Footbridge at Old Harbor Village and Reconstruction of Blue Hill Avenue and Everett Street Bridges.

Upon approval of this project by the W. P. A., work was started December 12, 1940. The average number of men employed is 50. In 1940 the city spent on this project \$6,569.48. It is expected that all work under this project will be completed about August 1, 1941.

*Project 21966.**Renovating and Improving Sumner Tunnel.*

This project is for electrical wiring, painting, waterproofing and other rehabilitation work throughout the tunnel, approaches, and vent buildings. Upon approval of this project by the W. P. A., work started October 15, 1940. The average number of employees is 52. During this year the city spent \$9,448.49 on this project. It is expected that all work will be completed about June 1, 1941.

Police Department Project — Police Station 8.

This project was for the building of a covered basin to house police launches and a marine railway to take out vessels when necessary. The work on the shelter basin was completed this year. The work on the marine railway was started this year and will be completed in 1941. Plans were prepared and work supervised by this division for the Police Department.

Proposed Project.

In October, 1939, a project was submitted to the W. P. A., for work at the South Ferry drops, headhouse and meter room, Boston and East Boston sides; repairing fire damage, painting and repairing, rebuilding drop suspension and floor system. This was approved and work started, which work continued until all available money was expended. A supplementary project was written up this year. We expect this supplementary project will be approved. Upon approval work will be resumed and will be completed in 1941.

The more important works undertaken during the past year in the Bridge Service, in addition to W. P. A.

projects, were the placing of high curbs on Summer Street Bridge, over Fort Point Channel; Summer Street Bridge, over Reserved Channel and Meridian Street Bridge, over Chelsea Creek; cleaning and scaling the Massachusetts Avenue Bridge, over the Boston & Albany Railroad; repairing Beacon Street, Dartmouth Street and Brookline Avenue Bridges; constructing a snow dump at the North Ferry, Boston; repairing hull, etc., of ferryboat "Daniel A. MacCormack" and "Charles C. Donoghue" and repairing machinery, etc., of ferryboat "Daniel A. MacCormack."

BRIDGE SERVICE.

*Beacon Street, Dartmouth Street and Brookline Avenue,
over the Boston & Albany Railroad.*

Owing to the erosive action of the flue gases of locomotives the steel and concrete of the under side of the decks of these bridges required minor renewals and repairs. For some time past, pieces of concrete masking of the superstructures occasionally dropped to the roadbed.

On September 27, 1940, the Mayor approved a contract with Maurice M. Devine Company, Inc., to make the necessary repairs. Under this contract, 169.1 cubic feet of concrete masking was removed and 224 pounds of rods and lugs and 231 square feet of wire-mesh secured in place, incidental to guniting; 119 bags of cement were used for gunite. Additional blast guards of wrought iron were installed as directed. Work on this contract was completed on November 26, 1940, at a cost of \$2,417.18.

*Massachusetts Avenue Bridge, over Boston & Albany
Railroad.*

Due to the natural deterioration of the steel of this bridge it was realized that extensive repairs would be necessary in the near future. In order to make a comprehensive inspection so that a rational estimate of the necessary work to be done would be possible, a thorough cleaning of the steel work was required.

On July 9, 1940, the Mayor approved a contract with Maurice M. Devine Company, to chip, scrape and wire brush all steel work. Work under this contract was completed on August 14, 1940, at a cost of \$1,776.

Safety Curbs.

Continuing the program for the installation of safety curbs on the city bridges, in an effort to reduce the number of automobile accidents involving the going overboard of the vehicle, the Mayor approved a contract on February 2, 1940, with Baker & Co., to install high curbs of various types on Summer Street Bridge over the Reserved Channel, Summer Street Bridge, over Fort Point Channel and Meridian Street Bridge, over Chelsea Creek.

Under this contract 5,203.7 linear feet of curbs were installed, of which 4,636.3 feet are of wood, 544.4 feet are of a patented spring steel type and 23 feet are of concrete. Since the installation has been completed there have been incidents which have demonstrated the value of these curbs.

Work under this contract was completed on April 18, 1940, at a total cost of \$9,668.49.

HIGHWAY DIVISION.

Snow Dump.

Since the discontinuance of the ferry service at the North Ferry on April 29, 1933, the headhouse and the north slip on the Boston side has remained idle except for a short time when the Police Department used the slip for some boats and maintained a small force of men in the headhouse. In 1939 a W. P. A. Project was started on the demolition of these wooden structures.

With this wide and free approach to the water front it seemed that here was an excellent location for a snow dump to expedite the disposal of snow in connection with snow removal contracts in winter. On December 2, 1940, the Mayor approved a contract with the W. H. Ellis Company to build a wooden pier from the foot of Battery street out to the Old Harbor line.

Work started at once but there was not much progress made before the end of the year.

DAY LABOR FORCE.

The day labor force patched and replaced deck sheathing, headers and sidewalk planking on the various bridges; repaired platforms, refastened treads; cleaned

and painted drawhouses and shelter houses; made repairs to drawhouses and controller houses; added to and deducted from counterweights; repaired steps; removed snow and ice from bridges and sanded same; repaired piers, painted fences and gates; did general carpenter work and painting and made mechanical repairs, etc.; repaired wood block paving, refastened treads on various bridges; repaired and rebuilt gates at various bridges; repaired floats, built and repaired sand boxes, rebuilt coal bins at various bridges; repaired boats, set glass at various drawhouses; painted lockers at drawhouses; made miscellaneous small repairs at various bridges, etc.

The maintenance force, together with welfare men, cleaned the bridge sidewalks and steps in the intown areas of snow and other refuse during the entire year. Electrical and machinery maintenance was taken care of by the electricians and machinists.

Another duty of this division during the winter months was the supervising and inspecting of snow loading and removal from Areas Nos. 3 and 10, in common with other divisions of the Department. This work was done under contract.

In the course of the year part of the activities of the office force were taken up in work for other divisions and departments of the city. While these efforts, spread over the entire period, did not require a considerable amount of time, the nature of the work was of an advisory and investigating nature.

MISCELLANEOUS WORK.

Meridian Street Bridge.—As a result of a public hearing held in September 1939, the City of Boston was officially notified by the War Department, in a letter dated April 13, 1940, to provide a draw span at this bridge affording a horizontal clearance of 175 feet; the work to be completed within three years from date of notice. The city protested this order and another public hearing was held by the War Department on December 17, 1940, to determine whether the above order should be modified. As yet no final action has been taken.

Longfellow Bridge.—By order of the Commissioner of Public Works, plans were drawn up for the Highway Division, with the intention of widening both

roadways on the Boston approach and it is expected that this work will be started and completed in 1941.

Broadway Bridge, over Boston and Albany Railroad.—Studies were made and plans prepared for rebuilding this bridge.

Parsons Street Bridge.—Plans were made for a footway under the railroad at this location.

Tollgate Way Footbridge.—Studies were made for an underpass to replace the present overhead bridge at Tollgate Way, Forest Hills.

FERRY SERVICE.

The following ferry boats are in commission:

NAME.	When Built.	Length.	Gross Tons.
Charles C. Donoghue.	1926	174 feet, 4 inches	756.77
Daniel A. MacCormack. . . .	1926	174 " 4 "	756.77
Ralph J. Palumbo.	1930	174 " 4 "	779

All these boats are of the propeller type and are all steel boats.

The work of this service for the year consisted of the following:

Ferryboat "Daniel A. MacCormack."

Incidental to the annual expiration of the United States Ship's papers, under which the boat is permitted to operate, it was necessary that the boat be taken out of water for an inspection of the under water body by the United States Steam Boat Inspection Service. While it has been the practice of the city under these circumstances, to let a general contract for repairs to the hull, superstructure and machinery, due to the few plants where the boat could be taken on a railway or dry dock compared with the many plants equipped to complete marine repairs, etc., it was deemed advisable to call first for bids for such work as required having the hull out of water and later for such other work, including superstructure and machinery.

On April 30, 1940, the Mayor approved a contract with the Quiney Dry Dock and Yacht Corporation, for repairing the hull and doing incidental work which required having the boat out of water. The work done included cleaning and painting the hull, repairing the rudders and main stuffing boxes, renewing certain

plates and structural work inboard and repairing the propellers by electric welding. Work under this contract was completed on May 21, 1940, at a cost of \$4,001.50.

On June 14, 1940, the Mayor approved a contract with the Quincy Dry Dock and Yacht Corporation, to make repairs to the machinery and superstructure of the vessel. This work included the cleaning and painting of the superstructure, general overhauling and adjusting of the main engines and auxiliaries, installing of a new water end of the condenser (the city furnished the new parts) the reboring of one high pressure cylinder of the main engines, the rebabbitting of four main crank-pin boxes and four main bearings and the truing up of four piston rods and valve stems of the main engines. Work under this contract was completed on July 12, 1940, at a cost of \$6,060.

Ferryboat "Charles C. Donoghue."

To complete such repairs and work as might be required by the United States Steam Boat Inspection Service for the issuing of the necessary ship's papers, the Mayor on October 15, 1940, approved a contract with the Quincy Dry Dock and Yacht Corporation for making certain repairs to the hull and machinery.

Under the contract the ship was cleaned and painted, two rudders and two main stuffing boxes were repaired, the pitted areas of the propellers were repaired by the arc welding process, three crank-pin boxes and four main bearing brasses were rebabbitted and the main engines and auxiliaries were overhauled and adjusted.

Work under this contract was completed on November 22, 1940, at a cost of \$9,354.50.

Department Force.

During the year machinists, carpenters, painters, riggers and electricians, who are included in the personnel of the Ferry Service, made all repairs possible to the plant to the extent of equipment at their disposal. This work consisted mainly of minor repairs to the machinery on the boats, repairs to ferry bridge machinery, ferry bridge roadways and headhouse repairs in general.

SUMNER TUNNEL.

Summary of Work During 1940.

Miscellaneous.— All electrical manholes have been inspected and found to be in excellent condition. Several times during the past year these manholes were pumped out and inspected.

The two neon signs have been inspected and repairs made as needed.

Power.— The power supply is received from the Boston Edison Company at 13,800 volts and is used for the operation of fans, lighting, elevators toll registering, heating and electric pumps.

	1938.	1939.	1940.
Total kilowatts.....	2,843,914	2,965,340	3,091,410
Total vehicles.....	5,543,302	5,936,007	6,309,524

Ventilating Fans, Motors and Dampers.— All fans, motors, dampers and damper motors have been cleaned and painted and all operating mechanism have been adjusted and repaired as needed. All fan controllers have been inspected, painted and overhauled. All exhaust fan rooms have been cleaned.

Exhaust Air Duct.— The exhaust air duct over the tunnel roadway has been cleaned and all dirt removed.

Fire Protection.— All 15-pound Alfite fire extinguishers and all Foamite fire extinguishers have been refilled and recharged as needed. Also the yearly inspection of all fire extinguishers has been made.

Motor-Generators, Power and Batteries.— The four motor generators are in excellent working condition, the commutators have been cleaned, new brushes installed and all machines painted.

The power batteries are regularly inspected by the tunnel maintenance men and also several times a year by a representative of the Philco Storage Battery Company and are in good condition.

Carbon Monoxide Equipment.— All equipment is calibrated, adjusted and inspected every three months and is working correctly.

Garage Service.— During the past year of 1940 there were 189 towing jobs:

	1938.	1939.	1940.
Tow jobs.....	341	288	189

VEHICULAR TRAFFIC.

	1938.	1939.	1940.
Totals.....	5,543,302	5,936,007	6,309,524
Monthly average.....	461,942	494,667	525,793
Weekly average.....	106,602	114,154	121,337
Daily average.....	15,187	16,263	17,239

Fires.— There were no fires in the Tunnel during the year of 1940.

BOOTH RED SIGNAL.	1938.	1939.	1940.
Booth Red on.	13 times	6 times	16 times
Total duration.....	77 minutes	52 minutes	113 minutes

Tunnel, General.— All catch-basins, drop inlets and pump-room sumps were cleaned twice. Repairs were also made to the tunnel roadway as needed. Tunnel walls, roadways and ceilings are cleaned two or three times each month. All of the cleaning and repair work is done after 12 o'clock midnight and with no interference to traffic.

Administration Building.— A yearly inspection of all combinations, delayed locks, bolts and mechanism of all deposit boxes and safes has been made by the representative of the Diebold Safe and Lock Company, and all were found to be operating properly.

Toll Registering Equipment.— All toll registers and key boxes are in good working condition and are constantly under supervision at all times.

A monthly insulation resistance and a pressure test is made of all treadles and any treadle showing faults are removed and repaired.

Traffic Signals.— All broken glass and lenses have been replaced. All traffic signals relays and panels have been overhauled.

Telephone System.— A new length of telephone cable has been installed from the Boston Ventilation Building to the Boston Plaza and Administration Building.

All defective cords and induction coils have been replaced as needed.

Personnel.— During 1940 there was the following changes in personnel:

One electrician-operator, died July 1940.

One electrician-operator, appointed August 1940.

One tollman-guard, transferred September 1940.

One tollman-guard, resigned July 1940.

An examination was held to fill the vacancy of an electrical engineering inspector caused by a transfer to another department. This position is now filled by one of the electrician operators who passed the examination.

Yours respectfully,

THOMAS H. SEXTON,
Division Engineer.

BRIDGE SERVICE.

FINANCIAL STATEMENT, 1940.

Expenditures from Maintenance Appropriations.

Boston bridges	\$426,358 93	
Boston and Cambridge bridges	4,962 78	
	<hr/>	\$431,321 71

Total Expenditures.

From maintenance appropriation	\$431,321 71	
From special appropriations	67,470 58	
	<hr/>	\$498,792 29

Expenditures on Boston Bridges.

Administration:

Division engineer	\$3,000 00	
Engineers and draughtsmen	45,638 02	
Clerks	5,200 33	
Inspectors	4,600 10	
Foreman	2,499 78	
Blue printers	2,300 00	
Veterans' pension	1,000 00	
Injured employees	156 86	
	<hr/>	\$64,395 09
Printing, postage and stationery,	\$929 79	
Traveling expense	46 75	
Telephone	2 65	
Engineers' supplies and instru- ments (new and repaired)	13 99	
Office supplies	97 22	
Inspection of typewriters	26 50	
Binding	56 65	
	<hr/>	1,173 55
		<hr/>
		\$65,568 64

Yard and Stockroom:

Yard:

Clerk and watchmen	\$8,407 01
Holiday and vacations	2,636 63
Traveling expense	290 85
Tools, new and repaired	843 71
Telephone	155 34
Repairs in yard	90 27
Supplies	923 18
Other services	956 90
Auto equipment	5,547 60

\$19,851 49

Stockroom:

Stock purchased	\$18,500 48
Stock used	19,374 64

Decrease in stock 874 16

\$18,977 33*Tidewater Bridges, 1940.*

BRIDGES.	Drawtenders' Salaries.	Mechanics' Wages.	Material.	Repair Bills.	Supplies.	Totals.
Broadway	\$13,924 68	\$884 86	\$639 71	\$280 91	\$306 01	\$16,036 17
Charlestown	24,463 12	3,735 00	1,909 41	422 99	431 29	30,961 81
Chelsea North	17,824 33	2,546 65	711 18	915 00	1,172 32	23,169 48
Chelsea South	18,597 38	1,366 84	61 74	1,223 42	603 91	21,853 29
Chelsea Street	18,852 25	565 13	38 18	279 85	576 45	20,311 86
Congress Street	18,013 70	427 83	96 50	201 71	465 62	19,205 36
Dorchester Avenue	14,292 25	2,328 34	3,793 30	379 12	327 39	21,120 40
Dover Street	13,790 50	1,963 56	1,080 65	253 59	249 58	17,337 88
L Street *	18,167 78	2,768 19	1,015 81	1,188 06	710 15	23,849 99
Malden	18,198 97	1,179 29	411 43	655 95	571 27	21,016 91
Meridian Street	16,764 22	4,448 64	1,191 94	1,189 03	361 84	23,955 67
Northern Avenue	19,522 37	1,285 19	1,582 19	680 28	3,277 42	26,347 45
Summer Street	18,463 22	1,955 75	1,014 89	1,386 19	429 64	23,249 69
Warren	16,946 33	2,482 67	452 33	425 82	310 97	20,618 12
Totals	\$247,821 10	\$27,937 94	\$13,999 26	\$9,481 92	\$9,793 86	\$309,034 08

* Now Summer Street, over Reserved Channel.

Repairs on Inland Bridges.

BRIDGES.	Labor and Material.
Albany Street.....	\$12 69
Arlington Street.....	11 50
Austin Street-Prison Point.....	152 07
Beacon Street, over Boston & Albany Railroad.....	4 50
Bennington Street.....	96 79
Blakemore Street.....	93 75
Blue Hill Avenue.....	721 02
Boston Street.....	80 18
Boylston Street.....	42 17
Braddock Park-Follen Street.....	267 38
Broadway, over Boston & Albany Railroad.....	909 45
Butler Street (Foot).....	28 00
Byron Street.....	72 73
C Street stairs.....	9 05
Cambridge Street, over Boston & Maine Railroad.....	135 51
Camden Street-Gainsborough Street (Foot).....	89 39
Central Avenue.....	513 79
Chelsea Street, over Viaduct.....	84 34
Commercial Point.....	270 29
Cummins Highway-Mattapan.....	8 73
Dana Avenue.....	132 30
Dartmouth Street (rent).....	300 00
Durham Street-West Rutland Square.....	49 30
Dorchester Avenue, over railroad.....	302 71
Everett Street.....	1,318 68
Freeport Street.....	296 32
Fairmount Avenue.....	287 69
Granite Avenue.....	261 93
Greenfield Road.....	556 00
Hyde Park Avenue, over Stony Brook.....	185 21
Irvington Street-Yarmouth Street (Foot).....	18 39
Jones Avenue (Foot).....	124 87
Massachusetts Avenue, over New York, New Haven & Hartford Railroad..	11 50
Milton Lower Mills.....	219 09
Milton Street.....	138 78
Mystic Avenue.....	54 26
<i>Carried forward</i>	\$7,860 36

Repairs on Inland Bridges.—Concluded.

BRIDGES.	Labor and Material.
<i>Brought forward</i>	\$7,860 36
New Allen Street	107 83
Old Harbor Village	285 73
Perkins Street (Foot)	62 20
River Street	573 17
Sprague Street	113 25
Southampton Street	126 11
Summer Street, over B Street	41 89
Toll Gate Way (Foot)	256 17
Victory Road	112 21
Winthrop	229 56
Western Avenue	28 00
West Fourth Street	1,584 86
Cleaning bridges	2,422 50
Snow removal and sanding	3,589 47
W. P. A. Projects:	
Dorchester Avenue	12,526 09
Everett Street	2,148 25
Blue Hill Avenue	29 00
Old Harbor Village	340 53
History of Boston Bridges	341 70
Totals	\$32,778 88

SUMMARY.

Administration	\$65,568 64
Yard and stockroom	18,977 33
Tidewater bridges	309,034 08
Inland bridges	17,393 31
W. P. A. Projects	15,385 57
	\$426,358 93
Boston and Cambridge bridges	4,962 78
Total	<u>\$431,321 71</u>

BRIDGES, REPAIRS, ETC.

Beacon Street Bridge, over Boston & Albany Railroad:		
Maurice M. Devine, Inc.	\$127 59	
Advertising	7 85	
		\$135 44
Broadway Bridge, over Boston & Albany Railroad:		
Flagman services		85 27
Brookline Avenue Bridge:		
Maurice M. Devine, Inc.	\$587 07	
Advertising	7 85	
		594 92
Charlestown Bridge:		
Repairs to trusses	\$425 00	
Repairs to paving	616 35	
		1,041 35
Chelsea Bridge North:		
Repairs to end lifts		509 94
Chelsea Street Bridge:		
Material — paint		20 25
Dartmouth Street Bridge:		
Maurice M. Devine, Inc.	\$1,339 94	
Advertising	7 80	
		1,347 74
Massachusetts Avenue Bridge, over Boston & Albany Railroad:		
Maurice M. Devine, Inc.	\$1,776 00	
Flagman services	369 53	
Advertising	12 50	
		2,158 03
Massachusetts Avenue Bridge, over New York New Haven & Hartford Railroad:		
Repairs to sidewalk and abutments		187 40
Meridian Street Bridge:		
Baker & Co.— high curbs	\$5,344 79	
Repairs to centering device	185 00	
Advertising	4 70	
		5,534 49
Northern Avenue Bridge:		
New air pump cylinder		116 80
Old Harbor Village Footbridge:		
Test borings		159 60
Summer Street Bridge, Over Fort Point Channel:		
A. Orlando, Inc.	\$24,654 77	
Baker & Co.— high curbs	1,132 26	
Lumber	303 41	
Paint	198 75	
Electrical material	533 68	
Steel and angle bars	172 40	
Machinery repairs	124 63	
Electrical repairs	279 47	
Fence repairs	125 00	
Advertising	31 40	
Supplies — miscellaneous	74 85	
		27,630 12
Carried forward		\$39,521 35

<i>Brought forward</i>		\$39,521 35
Summer Street Bridge over Reserved Channel:		
Baker & Co.—high curbs		3,191 44
Warren Bridge:		
Repairs to paving		813 15
		<hr/> \$43,525 94
Albany Street Bridge:		
V. J. Grande Company	\$8,114 76	
Inspection of material	716 79	
		<hr/> 9,818 34
Berkeley Street Bridge:		
Coleman Brothers Corporation	\$6,128 94	
Inspection of material	244 68	
		<hr/> 6,373 62
Boylston Street Bridge:		
Inspection of material		6 24
		<hr/> \$16,228 20
		<hr/> <hr/>

SUMMARY.

Expenditures from Special Appropriations.

	Balances from 1939.	Total Credits, Including Balances Carried Over and Transfers.	Expended During Year 1940.	Unexpended Balances December 31, 1940.
Bridges, repairs, etc.....	\$32,237 96	\$52,237 96	* \$43,959 17	\$8,278 79
Bridges, reconstruction and repair of P. W. A.....	16,434 22	35,364 18	† 23,511 41	11,852 77
Totals.....	\$48,672 18	\$87,602 14	\$67,470 58	\$20,131 56

* Includes \$433.23 expended by Boston and Cambridge Commission.

† Includes \$7,283.21 expended for redemption of bonds.

Draw Openings, 1940.

BRIDGES.	STEAMERS.			SAILING VESSELS.			TUGS.			BARGES.			ALL OTHERS.			TOTAL NUMBER OF VESSELS.			Total Number of Carroes.	Total Number of Openings.
	Day.	Night.	Total.	Day.	Night.	Total.	Day.	Night.	Total.	Day.	Night.	Total.	Day.	Night.	Total.	Day.	Night.	Total.		
Broadway.....	.....	.....	.....	35	5	40	490	26	516	91	15	106	301	3	304	917	49	966	218	472
Charlestown.....	2	.....	2	24	7	31	668	330	998	191	147	338	640	346	986	1,525	830	2,355	609	629
Chelsea North.....	1,306	132	1,438	8	.....	8	8,661	1,301	9,962	1,771	796	2,567	810	106	916	12,556	2,335	14,891	1,329	6,184
Chelsea South.....	84	46	130	.....	.....	.....	2,563	49	2,552	114	2	116	1,464	30	1,494	4,165	127	4,292	1,264	1,369
Chelsea Street.....	287	169	456	8	.....	.....	2,018	1,054	3,072	762	700	1,462	161	37	198	3,236	1,960	5,196	970	2,851
Congress Street.....	124	8	132	18	3	21	1,118	58	1,206	259	34	293	759	62	821	2,368	165	2,473	432	1,545
Dorchester Avenue.....	13	.....	13	16	2	18	507	14	521	69	5	74	369	10	379	974	31	1,005	216	572
Dover Street.....	1	.....	1	51	6	57	498	22	520	77	11	88	301	3	304	928	42	970	221	538
L Street*.....	.....	.....	.....	319	90	409	433	185	618	723	209	932	1,524	726	2,250	2,969	1,210	4,209	505	3,437
Malden.....	120	54	174	1	1	2	858	304	1,162	329	206	535	480	272	752	1,788	837	2,625	399	1,798
Meridian Street.....	1,011	330	1,341	.....	.....	.....	6,018	1,339	7,357	2,403	1,339	3,742	4,196	674	4,870	13,628	3,829	17,457	2,635	10,165
Northern Avenue.....	143	118	261	49	19	68	2,035	362	2,398	242	63	305	1,495	316	1,811	3,964	879	4,843	853	2,912
Summer Street.....	82	36	118	35	13	48	1,085	141	1,226	251	43	294	558	84	642	2,011	317	2,328	492	1,514
Warren.....	11	1	12	4	.....	4	632	335	967	309	188	497	2,069	802	2,871	3,025	1,326	4,351	681	2,481
Totals.....	3,184	893	4,078	568	146	714	27,554	5,521	33,075	7,591	3,758	11,349	15,127	3,471	18,598	54,024	13,937	67,961	10,824	36,467

* Now Summer Street over Reserved Channel.

FERRY SERVICE.

FINANCIAL STATEMENT FOR THE YEAR ENDING DECEMBER 31, 1940.

1. Receipts.

Total cash receipts during the year	\$24,862 07
Cash in hands of tollmen at beginning of year	125 00
	<hr/>
	\$24,987 07
Cash paid over to City Collector	24,862 07
Cash in hands of tollmen December 31, 1940	125 00
	<hr/>
	<u>\$24,987 07</u>

2. Appropriations and Expenditures.

Received from annual appropriations for Ferry Service	\$225,634 90
Unexpended balances from special appropriations, January 1, 1940	7,408 58
Expenditures	7,408 58
	<hr/>
Unexpended balances December 31, 1940	<u>\$0 00</u>

3. Result of Operation for the Year.

Receipts for the year (net income)	\$24,862 07
Ordinary expense (maintenance appropriations)	\$222,253 83
Interest paid on ferry debt	8,920 00
Depreciation on ferryboats	44,398 96
Decrease in value of machinery and tools	301 70
	<hr/>
Total	\$275,874 49
Increase in value of supplies on hand	127 48
	<hr/>
Net outgo for year	275,747 01
	<hr/>
Net loss for the year *	<u>\$250,884 94</u>

* Does not include expenditures for special appropriation.

Balance Sheet, End of Fiscal Year, December 31, 1940.

ASSETS.		LIABILITIES.	
AVAILABLE ASSETS:		CURRENT LIABILITIES:	
Cash in hands of tollmen at close of year	\$125 00		
Inventory of Supplies, viz.:			
Supplies for maintenance	16,864 98		
Rents receivable	773 50		
Damages receivable	325 00		
CONTINGENT ASSETS:		CONTINGENT LIABILITIES:	\$1,210 30
City Treasurer (Relief Appropriation)	1,210 30	Appropriation H Relief Project	
FIXED ASSETS		FIXED LIABILITIES:	
Real estate, land and buildings ¹	466,100 00	Capital of the city invested in the ferries, viz.:	
Ferryboats ²	336,432 15	Total expenditures of all kinds for eighty-	
Machinery, tools, etc.	2,715 30	three years, including interest on ferry-	
		debt	\$27,730,342 26
Total tangible assets	\$824,546 23	Less total receipts	8,985,223 48
Deficiency or loss by operations and main-			
tenance of the ferries for eighty-three years			
to date	17,921,782 85		18,745,118 78
			\$18,746,329 08
	\$18,746,329 08		

¹ Original purchase.

New buildings, drops, slips, cost to 1913. \$276,375 00
 Land, Lincoln's Wharf, cost to 1867 607,523 64
 Land, Battery Wharf, cost to 1893 5,562 32
 10,000 00

New drops, both ferries, cost from 1923 to
 December 31, 1940. \$899,461 16
 886,648 44
 \$1,786,109 60

² Assessors' figures

Total cost to date, per Ferry books \$2,539,820 50
 Less boats sold, depreciated or destroyed 2,193,388 35
 \$336,432 15

Balance Sheet for Year 1940.

<i>Assets.</i>	
Cash, tollman's capital	\$125 00
Rents receivable	773 50
Supplies in stock	16,864 98
Ferryboats (less depreciation)	336,432 15
Machinery and tools	2,715 30
Real estate, land and buildings (assessors' valuation)	*466,100 00
Damages receivable	325 00
City Treasurer (relief appropriation)	1,210 30
Total	<u>\$824,546 23</u>
Cost of avenues, etc., East Boston (previous to 1871)	1315,815 68
Deficiency of assets (loss)	<u>17,605,967 17</u>
Total	<u>\$18,746,329 08</u>

<i>Liabilities.</i>	
Capital invested by City of Boston to date	\$18,745,118 78
Appropriation H Relief Project	1,210 30
Total	<u>\$18,746,329 08</u>

Details of Capital Invested by the City of Boston.

Total expenditures to date per ferry books	\$27,321,433 41
Interest of debt for the year (per City Auditor's reports)	8,920 00
Interest previous years, etc., (net debits, per City Auditor's reports)	399,988 85
Total expenditures	<u>\$27,730,342 26</u>
Deduct total receipts paid to City Collector	8,985,223 48
Excess expenditures, capital	<u>\$18,745,118 78</u>

COMPARISON OF RECEIPTS, APPROPRIATIONS AND EXPENDITURES.

<i>Receipts.</i>	
From foot passengers (tollmen)	\$15,006 73
From team tickets (office sales)	26 00
From strip team tickets (tollmen)	1,649 60
From cash for teams (gatemmen)	† 7,824 92
From gatemmen's refunds	41 95
Total from rates	<u>\$24,549 20</u>
From rents	104 50
From other sources	208 37
Ordinary receipts	<u>\$24,862 07</u>

* Included in deficiency of assets in balance sheets.

† Includes cash fares from extra passengers on teams (gatemmen).

Expenditures (Ordinary).

Office:	
Division engineer's salary (part)	\$1,500 00
Clerk-assistant cashier	1,699 81
Clerk (part)	1,699 81
Retired veterans' pensions	6,672 58
Retired laborers' pensions	720 00
Stationery	110 58
Printing	387 65
Telephones	304 70
Advertising	38 75
Carfares	139 75
Postage	3 00
Premiums, surety companies	154 88
Total office expenses	<u>\$13,431 51</u>
Ferryboats and landings:	
Employees (wages)	\$153,180 52
Fuel	22,717 77
Teaming, weighing coal, etc.	2,826 00
Supplies	3,404 43
Gas	30 20
Oil	452 02
Electric light	1,378 41
Electric power	656 79
Repairs to boats	13,589 95
Repairs to buildings, drops and piers	1,267 02
Furnishings	26 40
Other expenditures	9,292 81
Total	<u>\$222,253 83</u>

RECEIPTS, APPROPRIATIONS AND EXPENDITURES.

Expenditures from Special Appropriations.

Ferry improvements, etc.	\$7,408 58
Total expenditures	<u>\$229,662 41</u>

Appropriations.

Regular annual appropriations	<u>\$225,634 90</u>
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Total Expenditures Upon Ferries Since 1858.

Expenditures for avenues, paving, interest, etc., previous to the purchase of the ferries by the city	\$444,101 30
Purchase of the ferries, April 1870	276,375 00
Expenditures for ferryboats since April 1, 1870	2,530,009 81
Expenditures for new buildings, piers, drops, etc.	1,491,468 59
Expenditures for tools and fixtures (prior to 1910)	14,752 46
Expenditures for land for Lincoln's Wharf in 1887	5,562 52
Expenditures for land for Battery Wharf in 1893	10,000 00
Total expenditures on capital account	\$4,772,269 68
Expenditures for repairs of all kinds	3,061,339 35
Expenditures for fuel	3,232,063 71
Expenditures for salaries and wages	13,130,419 55
Expenditures for all other purposes	3,534,249 97
	<u>\$27,730,342 26</u>

Total Receipts From Ferries Since 1858-59.

Receipts from rents, etc., previous to purchase of ferries,	\$29,588 56
Receipts from ferry tolls since purchase of ferries	8,644,670 27
Receipts from rents since purchase of ferries	73,842 40
Receipts from sale of ferryboats	168,004 57
Receipts from all other sources, per ferry books	38,507 83
Receipts from all other sources, per City Auditor	30,734 85
Total receipts from all sources	\$8,985,348 48
Less amount with tollmen as capital	125 00
Total receipts, Auditor's report	<u>\$8,985,223 48</u>

Regular Annual (Ordinary) and Special Appropriations (Extraordinary) of the Ferry Service for the Year Ending December 31, 1940.

Unexpended balance January 1, 1940	\$2,021 62
Appropriations (regular) for the year ending December 31, 1940	225,634 90
Total	\$227,656 52
Transferred to Paving Service	2,000 00
Total	\$225,656 52
Amount of expenditures (regular) for the year	222,253 83
	\$3,402 69
Transferred to City Treasurer	2,192 39
Unexpended balance, transferred to City Treasurer, H, Relief	<u>\$1,210 30</u>

Special Appropriations.

Ferry Improvements, etc.:	
Unexpended balance January 1, 1940	\$7,408 58
Expenditures for the year	7,408 58
Unexpended balance December 31, 1940	<u>\$0 00</u>

RECEIPTS OF SOUTH FERRY.

FROM TOLLMEN.	From Foot Passengers.	From Tickets.	Totals.
Boston side	\$7,560 64	\$900 40	\$8,461 04
East Boston side	7,446 09	749 20	8,195 29
Totals	\$15,006 73	\$1,649 60	\$16,656 33

From tollmen	\$16,656 33
From gatemen: cash for teams	*7,866 87
Total at South Ferry	†\$24,523 20
Tickets paid for at ferry office	26 00
Total in 1940 from rates	\$24,549 20
Rents for the year	104 50
Headhouse privileges	146 67
Care of public telephones	32 00
Commission on public telephones	29 70
Total	<u>\$24,862 07</u>

TRAVEL ON THE SOUTH FERRY FROM JANUARY 1, 1940,
TO DECEMBER 31, 1940, INCLUSIVE.

Foot passengers at 1 cent 1,500,673

SOUTH FERRY.

Handcart, or wheelbarrow and man	5 cents	} 22,881
Horse and rider	5 cents	
Horse and cattle, each with attendant	5 cents	
One or two horse vehicle with driver	5 cents	
Motoreycle with driver	5 cents	
Trailer	10 cents	} 50,086
Three or four horse vehicle with driver	10 cents	
Passenger automobile with driver and one passenger	10 cents	
Passenger automobile with driver and more than one passenger	15 cents	} 17,745
Motor truck, six tons or less with driver	15 cents	
Motor truck, six tons or over, with driver	20 cents	} 2,489
Auto bus with driver	20 cents	
Auto bus with driver and passengers	30 cents	000
Free vehicles		619

* Includes gatemen's refunds.

† Includes 1 cent cash fares from foot passengers for year.

SUMNER TRAFFIC TUNNEL.

1. RECEIPTS.

Financial Statement for the Year Ending December 31, 1940.

Cash in hands of cashier at the beginning of the year	\$5,999 65
Received from tolls	\$960,334 25
Received from sale of tickets through City Collector *	135 00
Commission on telephone tolls	8 66
Credit to tunnel for electrical material	11 00
Total receipts	960,488 91
	<u>\$966,488 56</u>
Cash paid over to City Collector	\$960,384 66
Cash in hands of cashier December 31, 1940	6,103 90
	<u>\$966,488 56</u>

2. APPROPRIATIONS AND EXPENDITURES.

Received from annual appropriation	\$236,817 00
Transferred to City Treasurer	7,181 36
Total expenditures for the year	<u>\$229,635 64</u>

3. RESULT OF OPERATION FOR THE YEAR.

Ordinary expenses (maintenance appropriation)	\$229,635 64
Interest paid on tunnel debt	832,123 75
Sinking Fund requirements	204,131 00
Refunds	19 50
Net outgo for the year	\$1,265,909 89
Receipts for the year (net income)	960,384 66
Net deficit for the year †	<u>\$305,525 23</u>

* Includes \$72.50 tickets sold in 1939; paid for in 1940.

† Does not include \$50,000; contribution of Commonwealth.

Comparison of Receipts, Expenditures, Interest and Sinking Fund Requirements, 1934 to 1940, Inclusive.

	1934.	1935.	1936.	1937.	1938.	1939.	1940.	Totals.
Expenditures (ordinary).....	\$222,364 68	\$231,620 96	\$237,025 00	\$229,385 86	\$218,527 98	\$221,276 68	\$229,635 64	\$1,589,836 80
Refunds — Tolls.....	.....	.....	.....	.....	.....	.....	19 50	19 50
Interest requirements.....	.....	804,127 50	823,881 25	830,078 33	851,452 50	837,773 75	832,123 75	4,979,437 08
Sinking fund requirements.....	.....	133,777 00	202,559 00	202,967 00	204,268 00	204,352 00	204,131 00	1,152,054 00
Total expenditures.....	\$222,364 68	\$1,169,525 46	\$1,263,465 25	\$1,262,431 19	\$1,274,248 48	\$1,263,402 43	\$1,265,909 89	\$7,721,347 38
Receipts.....	270,000 00	996,122 40	788,329 72	808,951 81	886,379 57	898,356 82	960,384 66	5,555,524 98
Surplus.....	* \$47,635 32	.....	.....	.....	.....	.....	.....	.....
Deficits.....	.....	\$173,403 06	\$475,135 53	\$453,479 38	\$437,868 91	\$365,045 61	\$305,525 23	\$2,162,822 40
Contribution from Commonwealth.....	.....	.....	.....	.....	.....	50,000 00	50,000 00	100,000 00
Net deficit raised in tax levy.....	.....	\$173,403 06	\$475,135 53	\$453,479 38	\$437,868 91	\$315,045 61	\$255,525 23	\$2,062,822 40

* Surplus in 1934 on account of no interest or sinking fund requirements.

SUMNER TRAFFIC TUNNEL.
ANNUAL TRAFFIC BY CLASSIFICATION FOR YEAR 1940.

CLASSIFICATION AND RATE.

	No. 1. 15 Cents, Truck.	No. 2. 15 Cents, Passenger Car.	No. 3. 15 Cents, Motor- cycle.	No. 4. 25 Cents, Truck.	No. 5. 20 Cents, Private Car and Trailer.	No. 6. 35 Cents, Truck.	No. 7. 20 Cents, Tractor and Trailer.	No. 8. \$1.00, Truck.	No. 9. 25 Cents, Buses.	City owned Vehicles.	Total.
January.....	24,710	342,185	76	1,488	111	412	2	47	11,819	4,324	385,204
February.....	25,025	282,080	87	1,745	114	469	15	64	13,088	4,207	326,894
March.....	28,573	378,749	102	1,673	75	400	6	61	14,709	4,449	428,797
April.....	26,573	411,380	110	1,554	191	303	15	22	14,873	4,676	459,697
May.....	28,968	502,629	192	1,939	267	309	14	18	15,119	4,934	554,389
June.....	32,058	596,904	221	1,829	345	337	13	19	14,077	4,526	650,329
July.....	31,476	672,813	218	2,075	337	416	34	23	14,254	4,862	726,508
August.....	33,674	618,008	232	1,947	365	394	16	19	14,789	4,223	673,667
September.....	30,524	503,087	182	1,883	314	338	24	31	15,025	4,066	555,474
October.....	30,695	497,420	209	1,872	318	562	9	34	15,007	4,666	555,792
November.....	26,868	447,672	151	1,549	275	565	7	27	14,308	4,404	495,826
December.....	29,051	449,732	119	1,736	222	749	3	34	15,698	4,603	501,947
Totals.....	348,195	5,702,659	1,899	21,290	2,934	5,284	158	399	172,766	53,940	6,309,524

APPENDIX B.

REPORT OF THE DIVISION ENGINEER OF THE
HIGHWAY DIVISION.

BOSTON, January 2, 1941.

To the Commissioner of Public Works:

DEAR SIR,—I submit the following report of the operations and expenditures of the Highway Division for the year ending December 31, 1940.

The Paving Service Appropriation in the budget called for \$1,190,321. There was an unexpended balance of \$24,707.10 from 1939, making a total appropriation of \$1,215,028.10. The amount expended during the year was \$1,634,608.28. During the year an additional appropriation of \$445,314 was allowed, making a total appropriation for the year of \$1,660,342.10, leaving an unexpended balance of \$25,733.82. Of this unexpended balance, \$22,962.31 belonged to Relief Projects, Item H, and will be used during the year 1941. The following is a summary of the Item H appropriation for 1940:

Unexpended balance from 1939	\$24,707 10
Original appropriation in budget, 1940	260,000 00
Total	<u>\$284,707 10</u>
Transfers made in 1940	444,790 00
Grand total	<u>\$729,497 10</u>
Total amount expended in 1940	706,534 79
Balance unexpended, 1940	<u><u>\$22,962 31</u></u>

As of January 1, 1940, the regular employees numbered 492 and on December 31, 1940, our personnel had decreased to 475.

The amount of money taken in through the Permit Office of the Paving Service amounted to \$17,306.64. There are now on file in the Permit Office 1,800 bonds in the amounts of one, three, four and twenty thousand dollars, covering the city against claims for damages, etc., through the use of permits.

The regular force of the Paving Service was employed as usual in the maintenance of all public streets, resurfacing and patching macadam pavements, patching all permanent pavements such as asphalt, granite block, etc., and taking care of all gravel, brick and artificial stone sidewalks.

The snowstorm on Valentine's Day was very large but, despite the intensity of same, the work progressed fairly well. Considerable information was gleaned from this storm and a discussion by the Snow Removal Committee during the year has resulted in a great many changes being made in the snow plowing and removing arrangements which will prove of great value in future storms. A new registration system for the employment of emergency men was put in effect and proved to be very satisfactory.

Work was continued this year by the Federal Works Progress forces, which continued the work of construction and reconstruction of streets, construction of retaining walls, erection of a new office building and a sand hopper.

The Highway Division went into the construction of a more permanent nature of pavement which shows less yardage done, but the character of the work is much more durable.

Also the division has permanently constructed streets, with sidewalks, edgestones and roadway that were accepted by the Board of Street Commissioners and an assessment was made on the abutting owners for the city's contribution. Under this arrangement thirty-two new streets were constructed.

During the year there has been approximately 27,030 square yards of sheet asphalt pavement laid; 421,074 square yards of bituminous concrete pavement laid; 42,079 square yards of concrete pavement laid, and 37,270 square yards of bituminous macadam pavement laid, making approximately 27 miles of roadway built and rebuilt.

The following is some of the more important streets and work performed this year:

The reconstruction of Tremont street, from Scollay square to Boylston street; the narrowing of the reservation and the reconstruction of Massachusetts avenue, from Albany street to Columbus avenue; the cutting of the width of the sidewalks and the covering of the abandoned elevated tracks in Boylston street, from

Hemenway street to Massachusetts avenue; the removing of the car track reservation in Blue Hill avenue, from American Legion Highway to beyond Charlotte street, to the center of the roadway and the building of two separate roadways for the flow of traffic; the reconstruction of one side of Tremont street, from Prentiss street to Camden street; the completion of the widening of Bussey street, from Walter street to South street; the reconstruction of Amory street, from School street to Minton street; the reconstruction of West Milton street, from Sprague street to the Dedham line.

The work on Atlantic avenue is still progressing and will, no doubt, be completed in 1941. These are a few of the major highways that work was done on this year and which will prove of great benefit to vehicular traffic throughout the city. Work is also progressing in the housing areas in the construction of perimeter streets in these areas. Also a number of safety islands were built throughout the city and have proved of great benefit to pedestrians. Work also went ahead in the placing of high curbs on various bridges throughout the city.

A new paving office, together with a large sand hopper, was built in the Dorchester District. This sand hopper holds approximately 1,400 tons of sand. The sand can be loaded into the trucks and this will be of great benefit to the city in the sanding of streets.

In order that an idea of money spent for the cost of this work may be had please be advised as follows:

Highway Division Expenditures:

Labor	\$64,943 14
Materials, equipment, heat, light, etc.	705,277 25

W. P. A. Expenditures:

Labor	2,136,359 47
Materials, equipment, heat, light, etc.	355,551 92

Grand total	<u><u>\$3,262,131 78</u></u>
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There are also in operation two white collar projects which call for a description of the various types of sidewalks in the city limits and also maps being drawn for snow removal by districts showing the location in selected areas of all public buildings, such as, hospitals, schools, fire stations, welfare and health units, libraries, churches, police stations, freight markets, theatres,

hotels and all other important public buildings, housing people, freight and foodstuffs that involve the life and sustenance of the human being.

LIGHTING SERVICE.

The Lighting Service Appropriation of the Highway Division called for \$929,708. Out of this amount \$925,469.83 was expended and \$3,700 was transferred to the Paving Service, leaving an unexpended balance of \$538.17.

Mazda lamps of 1,000 candle power were installed as follows: Summer street (2), Trinity court (1), Green street (1), City Proper; Chelsea street (1), Common street (1), Charlestown; Blue Hill avenue (7), Morton street (3), Dorchester; Sumner street (1), East Boston; Tremont street (2), Huntington avenue (2), Roxbury street (1), Washington street (24), Roxbury; Dorchester avenue (1), East Second street (1), South Boston; South Huntington avenue (2), Spring street (1), West Roxbury.

Mazda lamps of 600 candle power were installed as follows: Housing Area (21), Monument avenue (4), Charlestown; Blue Hill avenue Traffic Islands (8), Morton street Traffic Islands (2), Dorchester; Bennington street Traffic Islands (32), Breed street Traffic Islands (2), East Boston; Kendall street Housing Area (6), City Proper; Columbus avenue Traffic Island (1), Roxbury; Andrew square Traffic Island (1), South Boston.

Mazda lamps of 250 candle power were installed as follows: Quincy street (1), Medway street (1), Dorchester; Gaston street (1), Roxbury.

Two Mazda lamps of 132 candle power were installed in Chilcott place, West Roxbury.

Mazda lamps of 80 candle power were installed as follows: Wiltshire road (4), Brighton; Brighton street (1), Charlestown; Pembroke street (1), City Proper; Oldfield road (1), Range road (3), St. Brendan road (1), Huron Circle (2), Dorchester; Gwinnett road (2), Hyde Park; Holworthy street (1), Roxbury; Centre street (25), Eastland road (4), Bonair street (2), Willowdean avenue (1), Hackensack road (1), Neponset avenue (1), Leland road (1), Addington road (2), Alaric street (5), Sanborn avenue (1), Bowditch road (3), Whitford street (1), Chisholm road (2), West Roxbury.

Mazda fire alarm lamps were installed as follows: Glenville avenue (1), Brighton; Harrison avenue (1), City Proper; Minot street (2), Dorchester; Fenway (1), Longwood avenue (1), Roxbury; West Broadway (1), South Boston; Jamaicaway (1), West Roxbury.

During the year we changed the remaining 357 arc lamps of 1,500 candle power to 1,000 candle power Mazda type resulting in a very substantial saving.

Petitions and requests for new lamps received from citizens and officials, also complaints relative to the lighting service, have been investigated and attended to. All streets in the underground district prescribed for the year have been inspected and necessary changes and additions have been made.

Respectfully,

WILLIAM T. MORRISSEY,
Division Engineer.

HIGHWAY DIVISION — PAVING SERVICE.
Work Done by Contract and by Works Progress
Administration, 1940.

TYPE OF WORK.	W. P. A.	Total.
Removing trees.....	93 trees.	93 trees.
Earth excavation.....	199,921 cubic yards.	199,921 cubic yards.
Rock excavation.....	8,341 " "	8,341 " "
Filling furnished.....	2,301 " "	2,301 " "
Edgestone set.....	29,694 linear feet.	29,694 linear feet.
Edgestone reset.....	76,208 " "	76,208 " "
Granite block edgings.....	511 " "	511 " "
Granite block hips.....	47,802 " "	47,802 " "
Concrete base.....	19,353 cubic yards.	19,353 cubic yards.
Bituminous concrete base.....	31,404 square yards.	31,404 square yards.
Bituminous penetration macadam base.....	257,633 " "	257,633 " "
Granite blocks relaid, grout joints pavement.....	1,246 " "	1,246 " "
Bituminous penetration macadam pavement.....	37,270 " "	37,270 " "
Bituminous concrete pavement.....	421,074 " "	421,074 " "
Concrete pavement.....	42,079 " "	42,079 " "
Asphalt pavement.....	27,030 " "	27,030 " "
Artificial stone sidewalks.....	633,898 square feet.	633,898 square feet.
Bituminous concrete sidewalks.....	395,538 " "	395,538 " "
Brick sidewalks relaid.....	1,214 square yards.	1,214 square yards.
Gravel sidewalks graded.....	6,561 " "	6,561 " "
Granite blocks masonry walls, dry.....	659 cubic yards.	659 cubic yards.
Granite blocks masonry walls, mortar.....	618 " "	618 " "
Granite blocks masonry walls, spike cap.....	1,474 linear feet.	1,474 linear feet.
Concrete walls.....	16 cubic yards.	16 cubic yards.
Concrete steps and platforms.....	39 " "	39 " "
Chain link fence erected.....		551 linear feet.
High curb on bridges.....	2,082 linear feet.	2,082 " "
Steel forms for Safety Islands.....	3,060 " "	3,060 " "
New catch-basins built.....	80	80
Vitrified pipe laid.....	1,354 linear feet.	1,354 linear feet.
Catch-basin frames and manhole covers reset.....	1,449	1,449

TABLE SHOWING LENGTH AND AREA OF PAVING ON ACCEPTED STREETS, CORRECTED TO JANUARY 1, 1941.

	LENGTH IN MILES											AREA IN SQUARE YARDS										
	Sheet Asphalt	Asphalt Concrete	Granite Block	Wood Block	Plank on Bridges	Brick	Concrete	Macadam	Gravel	Not Graded	Totals	Sheet Asphalt	Asphalt Concrete	Granite Block	Wood Block	Plank on Bridges	Brick	Concrete	Macadam	Gravel	Not Graded	Totals.
Year 1939 Report	\$ 140.64	\$ 164.54	\$ 78.87	0.87	0.71	0.97	24.98	\$ 271.46	19.81	1.97	704.82	\$ 2,762.079	\$ 3,312.276	\$ 2,128.211	19.107	15.923	22.333	163.207	\$ 4,419.344	313.563	58,970	13,455.013
Per Cent	19.95	23.35	11.19	0.12	0.10	0.14	3.54	38.52	2.81	0.28	100.00	20.08	24.62	15.82	0.14	0.12	0.17	3.44	32.84	2.33	0.44	100.00
JANUARY 1, 1941																						
City Proper	32.11	28.36	26.66	0.84	0.13	0.40	3.16	5.33	0.19		96.68	640.281	651.362	619.489	4.564	3.750	6.685	96.262	83.875	1.371		2,107.639
Charlestown	0.69	3.61	9.97	0.08	0.07		0.80	7.13	0.01	0.00	22.66	10.146	57.473	240.941	2.011	1.999		18.858	106.030	80	41	437.579
East Boston	3.82	9.01	5.91	0.01	0.05	0.04	1.08	15.78	0.84	0.04	36.58	85.299	186.037	136.771	325	777		35.891	340.821	16,845	865	805,302
South Boston	8.84	9.40	10.87	0.04	0.19	0.12	0.97	14.35	0.32	1.30	46.48	167.132	198.794	293.574	1,285	4,797	2,993	26,573	250,592	5,321	34,550	979,611
Roxbury	25.29	17.55	12.27	0.10		0.14	6.15	31.86	1.12	0.00	94.78	456,226	350,564	317,038	2,689		3,352	103,916	469,087	17,274	61	1,720,297
West Roxbury	24.79	38.22	3.42	0.01	0.07		4.76	65.40	3.26	0.32	140.25	453,112	721,955	156,176	210	1,380		63,107	1,042,341	51,317	10,351	2,564,949
Dorchester	32.32	42.25	6.92	0.00	0.07	0.27	5.88	74.57	1.52	0.07	166.93	602,665	779,692	200,919	1,609	1,242	5,479	97,278	1,193,172	70,329	2,341	2,954,777
Brighton	11.40	30.18	0.63	0.00	0.08		2.27	17.62	1.04		62.62	260,259	575,555	71,746	1,007	1,231		45,337	284,864	13,833	2,870	1,259,702
Hyde Park	0.65	7.03	0.05	0.09	0.05		0.65	21.33	8.04	0.24	41.13	15,347	162,247	8,657	1,488	747		12,906	410,585	126,390	7,965	746,332
Totals	139.90	185.70	76.70	0.74	0.71	0.97	25.72	276.07	19.64	1.97	708.11	2,690,467	3,684,579	2,048,311	15,248	15,923	19,280	499,128	4,181,367	302,751	59,044	13,516,098
Per Cent	19.76	26.23	10.83	0.10	0.10	0.14	3.63	39.16	2.77	0.28	100.00	19.91	27.26	15.15	0.11	0.12	0.14	3.69	30.94	2.24	0.44	100.00

TOTAL PUBLIC STREETS 708.11 MILES

NOTE.—In the above table the city is subdivided substantially on the boundary lines between the districts as they existed, when annexed to Boston. Territory annexed from Brookline is included in city proper, and 0.18 mile on 3,474 square yards is Carey Elusive asphalt plank; and 0.11 mile or 2,507 square yards is Flinck asphalt plank; and 0.11 mile or 1,234 square yards is John-Manville asphalt plank.

§ Of this amount 0.02 mile or 185 square yards is cobble; and 51.45 miles or 1,571,265 square yards is granite block paving on concrete base.

§ Of this amount 0.06 mile or 924 square yards is Blome granitoid concrete block.

§ Of this amount 204.24 miles or 3,386,210 square yards is bituminous macadam.

§ Of this amount 204.24 miles or 3,386,210 square yards is bituminous macadam.

6.67 miles or 35,444 square yards public alleys included in this table; 7.55 miles or 334,691 square yards public streets in charge of Park Department included in this table; 7.01 miles or 236,673 square yards public streets in charge of Commonwealth of Massachusetts included in this table. In addition to this table there are 1.76 miles or 8,876 square yards of accepted footways.

YEARLY REPORT OF WORK DONE BY DEPARTMENT FORCES FOR 1940.

Brick sidewalks, laid and relaid	28,964 square yards.
Gravel sidewalks, relaid	78,191 square yards.
Granolithic sidewalks, laid (new)	10,730 square feet.
Granolithic sidewalks, relaid (old)	85,341½ square feet.
Tar sidewalks, laid or relaid	48,057 square yards.
Block gutters, laid	2,918 square yards.
Block paving, laid (roadway) granite	3,705 square yards.
Edgestone set (new)	169 feet, 11 inches.
Edgestone reset (old)	8,030 feet, 11 inches.
Macadam roadway, patched	160,803 square yards.
Street cleaning	54,937 cubic yards.
Snow removal	691,819 cubic yards.

STREET OPENINGS.

Under classes 1 and 2 of the schedule of permit fees there were issued for openings in Public Ways as follows:

	Number of Permits.
City Departments	3,102
Public Service Corporations	3,103
Emergency for same corporations	1,510
Miscellaneous	802
Total	<u>8,517</u>

Permits for other than street openings were as follows:

Painting and minor repairs	2,483
Placing and removing signs on buildings	614
Special permits	186
Erecting awnings	110
Moving buildings in street	4
Cleaning snow from roofs	14
Raising and lowering safes and machinery	37
Total	<u>3,448</u>
Grand total	<u><u>11,965</u></u>

The fees received from these permits amount to \$17,306.64; of this amount \$13,974.14 was deposited with the City Collector, and \$3,332.50 was billed to public service corporations.

BONDS.

There are now on file in this office 1,800 bonds, in amounts of one, three, four and twenty thousand dollars, covering the city against claims for damages, etc., through the use of permits.

APPENDIX C.

REPORT OF THE DIVISION ENGINEER OF
THE SANITARY DIVISION.

BOSTON, January 2, 1941.

To the Commissioner of Public Works.

DEAR SIR,—I submit herewith a statement of the activities and expenditures of the Sanitary Division for the year ending December 31, 1940:

Maintenance expenditures	\$1,996,008 22
Motor deficiency	35,152 36
Total cost approach	<u>\$2,031,260 58</u>
I. Waste collection and disposal	\$1,398,807 06
(a) By contract (Table II)	\$436,224 63
(b) By day labor (Table III)	962,582 43
II. Street cleaning (Table V)	572,068 79
Not directly chargeable to 1940 operation	60,384 73
(a) For other services	\$10,619 33
(b) Pensions	7,210 50
(c) Injured roll	1,599 10
(d) W. P. A.	2,052 40
(e) Unused stock	6,012 23
(f) Preventive street cleaning	32,891 17
Personnel changes in permanent force:	
Total personnel January 1, 1940	724
Transfers from other departments and divisions	9
New appointments	9
Reinstatements	1
	<u>743</u>
Deaths	11
Resignations	1
Retirements	22
Discharged	7
Transferred out	20
	<u>61</u>
Total personnel January 1, 1941	<u>682</u>

The 1940 budget expenditures, after making allowance for motor deficiency, were \$66,378 less than in 1939. The decreases are shown as follows:

Day labor waste collection	\$40,597
Street cleaning	16,627
Injured roll	759
Unused stock	3,932
W. P. A.	6,961
Preventive street cleaning	5,817

On the other hand, there were increases in the contract waste collection account amounting to \$4,174, and an increase of \$918 in pensions.

The Elm Hill district (Roxbury), which was previously done by day labor, was done by contract this year, which accounts, in part, for the increase in the contract waste collection, and the corresponding decrease in the day labor waste collection account. The total charges for this Elm Hill district, amounted to \$20,617, which included the contract price of \$15,600.

There were increases in waste collection contracts in East Boston, Charlestown, West Roxbury and Hyde Park, and decreases in the Dorchester and Brighton districts, resulting in a net decrease in the price of all the contracts, other than Elm Hill, which amounted to \$336 over the previous year.

There was a decrease in the welfare men in 1940, as compared with 1939, amounting to 22,386 man-days. This assistance in May reached a high point of over 850 men per day. From that point to the end of the year, the number dropped rapidly to a point, at the end of the year, of about 260 men per day. This rapid falling-off coincided with the international situation in that large numbers of these men were absorbed by W. P. A. projects and private industry.

The population for the year 1940 has been computed in a manner which agrees with the United States Decennial Census.

During the 1940 American Legion Convention, special problems arose in matters of street cleaning, particularly after the parade, and this work was done in a manner which earned the approbation of all.

Further progress in back-yard improvement, in the South End, was made by enlisting the aid of the children in that section of the city. Local civic units also lent their assistance, resulting in an improvement in street conditions.

The following work was done by the W. P. A.:

Street and Public Alley Cleaning Survey Project opened on August 15, 1940, employing 12 men and 7 women. This project is compiling and assembling worthwhile information relative to street cleaning activities and a standardization system of reporting such activity.

Respectfully submitted,

ADOLPH J. POST,
Division Engineer.

TABLE I.
Amount Expended for the Collection and Disposal of Ashes and Garbage by Districts, 1940.

Districts.	Population.	ASHES AND RUBBISH.		GARBAGE.		Total Cost.	Per Capita.
		Cost.	Per Capita.	Cost.	Per Capita.		
South Boston.....	58,889	\$108,374 12	\$1 8403	\$22,743 13	\$0 3862	\$131,117 25	\$2 2265
East Boston.....	59,663	27,950 43	0 4685	14,228 87	0 2384	42,179 30	0 7069
Charlestown.....	25,587	42,602 09	1 6650	-	-	42,602 09	1 6650
Brighton.....	62,309	24,494 08	0 3931	18,629 28	0 2989	43,123 36	0 6920
West Roxbury.....	87,086	43,511 42	0 4962	26,668 23	0 3041	70,179 65	0 8003
Dorchester.....	193,892	115,579 09	0 5961	86,162 86	0 4443	201,741 95	1 0404
Roxbury.....	93,846	237,151 15	2 5270	76,928 94	0 8197	314,080 09	3 3467
Roxbury (Elm Hill).....	24,083	12,276 11	0 5097	8,394 17	0 3484	20,670 28	0 8582
South End and Back Bay.....	93,197	303,266 78	3 2540	21,146 86	0 2269	324,413 64	3 4809
North and West Ends.....	46,922	171,660 36	3 6371	21,311 09	0 4541	192,971 45	4 1126
Hyde Park.....	24,742	7,752 65	0 3133	7,975 35	0 3228	15,728 00	0 6357
Totals.....	770,816	\$1,094,618 28	\$1 4200	\$304,188 78	\$0 4081	\$1,398,807 06	\$1 8147

TABLE II.
Cost of Collection and Disposal of Refuse by Contract in City of Boston, 1940.

CONTRACT DISTRICTS.	CHARACTER OF REFUSE.	Cubic Yards.	Cost per District.	Cost per Cubic Yard.	Population.	Total Cost per Capita.
East Boston.	Mixed refuse.....	78,051				
	Garbage.....	2,922				
	Totals.....	80,973	\$42,179 30	\$0 5209	59,663	\$0 7069
Charlestown.	Mixed refuse.....	37,252	* \$24,683 51			
	Garbage.....	.....	† 17,918 58			
	Totals.....	37,252	\$42,602 09	\$1 1436	25,587	\$1 6650
Brighton.	Mixed refuse.....	66,774				
	Garbage.....	8,376				
	Totals.....	75,150	\$43,123 36	\$0 5738	62,309	\$0 6920
West Roxbury.	Mixed refuse.....	107,094				
	Garbage.....	18,100				
	Totals.....	125,194	\$70,179 65	\$0 5605	87,686	\$0 8003
Dorchester.	Mixed refuse.....	280,184				
	Garbage.....	50,029				
	Totals.....	330,213	\$177,677 50	\$0 5380		
	Garbage disposal, appropriate charge.....		24,064 45			
	Totals.....	330,213	\$201,741 95	\$0 6109	193,892	\$1 0404

Roxbury (Elm Hill)	Mixed refuse.....	30,322				
	Garbage.....	5,936				
	Totals.....	36,258	\$20,670 28	\$0 5700	24,083	\$0 8582
Hyde Park.....	Mixed refuse.....	20,802				
	Garbage.....	5,616				
	Totals.....	26,418	\$15,728 00	\$0 5953	24,742	\$0 6357
Totals.....	Mixed refuse.....	620,479				
	Garbage.....	90,979				
	Totals.....	711,458	\$436,224 63	\$0 6131	477,962	\$0 9126

* Collection cost.

† Disposal cost.

TABLE III.

Cost of Collection and Disposal of Refuse by Day Labor Force in the City of Boston for the Year Ending December 31, 1940.

DISTRICTS AND POPULATION.	CHARACTER OF REFUSE.	Cubic Yards.	COST PER CUBIC YARD.			TOTAL COST.		Total Cost, Collection and Disposal.	Total Cost per Capita.
			To Collect.	For Disposal.	Collection and Disposal.	Cost to Collect.	Cost for Disposal.		
1. South Boston (58,889).....	Mixed refuse.....	96,291	\$0 64447	\$0 48106	\$1 1248	\$62,057 19	\$46,316 93	\$108,374 12	
	Garbage.....	8,780	2 10932	0 48106	2 5903	18,519 86	4,223 27	22,743 13	
	Totals.....	105,071	\$0 76688	\$0 48106	\$1 24789	\$80,577 05	\$50,540 20	\$131,117 25	\$2 2265
7. Roxbury (93,846).....	Mixed refuse.....	182,795	\$0 81525	\$0 48106	\$1 2973	\$149,224 93	\$87,926 22	\$237,151 15	
	Garbage.....	18,415	3 69650	0 48106	4 1775	68,071 14	8,857 80	76,928 94	
	Totals.....	201,210	\$1 08000	\$0 48106	\$1 5609	\$217,296 07	\$96,784 02	\$314,080 09	\$3 3467
8 and 9. South End and Back Bay (93,197),	Mixed refuse.....	211,486	\$0 97272	\$0 48106	\$1 45318	\$205,590 43	\$97,676 35	\$303,266 78	
	Garbage.....	8,353½	2 03048	0 48106	2 53154	17,128 76	4,018 10	21,146 86	
	Totals.....	219,839½	\$1 01399	\$0 48106	\$1 47551	\$222,719 19	\$101,694 45	\$324,413 64	\$3 4809
10. North and West Ends (46,922).....	Mixed refuse.....	123,417½	\$0 95392	\$0 95392	\$1 43498	\$117,730 96	\$53,929 40	\$171,660 36	
	Garbage.....	6,382	2 85825	0 48106	3 33931	18,241 28	3,069 81	21,311 09	
	Totals.....	129,799½	\$1 04755	\$0 48106	\$1 48668	\$135,972 24	\$56,999 21	\$192,971 45	\$4 1126
Totals (292,924).....	Mixed refuse.....	613,989½							
	Garbage.....	41,930½							
	Totals.....	655,920	\$1 00982	\$0 48106	\$1 46753	\$656,564 55	\$306,017 88	\$962,582 43	\$3 2861

TABLE IV.
Comparative Costs Per Cubic Yard 1939-1940.

DAY LABOR DISTRICTS.	COLLECTION COST.		TOTAL COST, DISPOSAL.		Cubic Yards. 1939.	Cubic Yards. 1940.
	1939.	1940.	1939. \$0.43999	1940. \$0.48106		
1. South Boston.....	\$0 78113	\$0 76688	\$1 2211	\$1 24789	103,976	105,971
7. Roxbury.....	0 98474	1 08000	1 4247	1 56090	247,361	201,210
8 and 9. South End and Back Bay	0 95116	1 01399	1 3910	1 47551	234,413	219,839½
10. North and West Ends....	1 00689	1 04755	1 4468	1 48668	136,622½	129,799½
Average.....	\$0 94873	\$1 00982	\$1 3887	\$1 46753	722,372½	655,920
Collection Cost.....					\$685,388 19	\$556,564 55

	COST PER CUBIC YARD.		Cubic Yards. 1939.	Cubic Yards. 1940.
	1939.	1940.		
2. East Boston.....	\$0 5649	\$0 5209	77,540	80,973
3. Charlestown.....	1 2321	1 1436	32,478	37,252
4. Brighton.....	0 6109	0 5738	85,199	75,150
5. West Roxbury.....	0 5125	0 5605	129,618	125,194
6. Dorchester (including disposal).....	0 6882	0 6109	313,506	330,213
7A. Roxbury (Elm Hill).....	*	0 5700	*	36,258
11. Hyde Park.....	0 5471	0 5953	25,118	26,418
Average.....	\$0 6512	\$0 6131		
Totals.....			663,459	711,458

* Day Labor District in 1939.

TABLE V.

Street Cleaning and Oiling Service, 1940.

Distribution of Expenditures.

Removing snow	\$102,261 38
Brooming	235,881 29
Pusheart patrolling	120,328 23
Horse-drawn sweeping	49,740 16
Motor sweeping	16,842 21
Team patrol	2,105 11
Refuse box collections	18,375 32
Sanding slippery streets	2,331 10
Underpass	2,935 89
Total	<hr/> \$550,800 69
Oiling and watering of public streets and ways,	21,268 10
Total	<hr/> <u>\$572,068 79</u>

APPENDIX D.

REPORT OF THE DIVISION ENGINEER OF THE
SEWER DIVISION.

BOSTON, January 2, 1941.*To the Commissioner of Public Works.*

I submit herewith statement of the activities and expenditures of the Sewer Division for the year ending December 31, 1940.

During the fiscal year 1940, there were built by contractors, day labor, private parties and by the city under P. W. A. and W. P. A. supervision 10.81 miles of common sewers and surface drains throughout the city. After deducting 3.48 miles of sewers and surface drains, rebuilt or abandoned, the net increase for 1940 is 7.33 miles, which added to the existing 1,203.07 miles of common sewers and surface drains and 30.93 miles of intercepting sewers, makes a grand total of 1,241.33 miles of all sewers belonging to the City of Boston, and under the care of the Sewer Division on January 1, 1941.

There were 315 catch-basins built or rebuilt and 146 abandoned or removed during the year, making a net gain of 169 catch-basins and a grand total of 22,218 catch-basins under the care of the Sewer Division on January 1, 1941.

Entrance fees to the amount of \$3,030.24 have been deposited with the City Collector for collection from estates upon which no sewer assessments were ever paid, in accordance with Ordinances of 1910, chapter 9, section 10.

975 permits have been issued, viz.: 375 to district foremen and contractors and 619 to drainlayers for repairing or laying new house drains. Inspectors from this office have personally inspected the work done under these drainlayers' permits.

Plans for the assessments for estates for sewer construction have been furnished the Board of Street Commissioners, representing 15,425.14 linear feet of sewers.

773 complaints have been investigated and inspectors are instructed to report in writing in each case.

1,235 gasoline traps have been examined in garages and cleansing establishments.

387 grease traps have been examined in hotels, restaurants and commercial establishments.

Reported in writing on 1,866 municipal liens to the City Collector, in accordance with chapter 60, section 23 of the General Laws. Reported orally on about 4,000 requests for information on municipal liens.

189 notices have been mailed to abutters in conformity with the Ordinances chapter 27, section 8, apprising them of the construction of new sewers or repairs to old sewers.

During the year 1940, 5,209 catch-basins were cleaned by day labor and 1,154 by advertised contract.

Work was started in July, 1940, on W. P. A. project 21666. This project covers demolition of a three-story brick stable, 195 feet by 62 feet at the Highland Street Yard, and also the erection of a new modern one-story brick and steel frame garage to house about forty trucks. Demolition work was started in July, 1940, and completed in October, 1940. Construction work on foundations for the new garage was started in October, 1940, and it is expected that the new garage will be completed during October, 1941.

Work was started in August, 1940, on W. P. A. project 21793. This project covers the erection of a new one-story and basement brick and concrete office and shop building in city yard at 315 Western avenue, Brighton. It is expected that work on this project will be completed during June, 1941.

ROBERT P. SHEA,
Division Engineer.

Financial Statement from January 1, 1940, to December 31, 1940.

	Balance on Hand January 1, 1940.	Appropriations and Revenue, 1940.	Transfers from Net.	Transfers to Net.	Total Credits December 31, 1940.	Total Expendi- tures.	Unexpended.
Sewer Service.....	.....	\$460,197 50	.....	\$2,225 00	\$462,422 50	\$460,048 47	\$2,374 03
H Item.....	\$19,797 85	355,000 00	\$52,469 63	.....	322,328 22	302,736 94	19,591 28
Sewerage Works, Non-Revenue.....	59,650 18	90,946 36	.....	.....	150,596 54	127,240 92	23,355 62
P. W. A.....	24,946 46	.....	.....	.....	.....	24,946 46	.....

MAINTENANCE EXPENDITURES FROM JAN- UARY 1 TO DECEMBER 31, 1940.

SEWER DIVISION.

Improved Sewerage.

Pumping Station, Calf Pasture, inside . . .	\$71,122 48
Pumping Station, Calf Pasture, outside . . .	9,564 73
Pumping Station, Calf Pasture, engines . . .	35,405 44
Pumping Station, Calf Pasture, boilers . . .	36,889 02
Pumping Station, Calf Pasture, Union Park street . . .	9,578 41
Pumping Station, Calf Pasture, Summer street, . . .	2,544 09
Moon Island . . .	24,263 40
Main and intercepting sewer . . .	20,666 19
Contract — New roof and repairing old roof at the Calf Pasture Pumping Station, Atlantic Roofing and Skylight Works . . .	228 84
	<hr/> \$210,262 60

Maintenance — Regular.

Automobiles	\$46,757 93
Cleaning catch-basins	65,138 78
Cleaning sewers	44,152 68
Employed at yards	30,929 70
Fuel and oil	527 45
Hardware and tools	1,509 61
House connections	11,231 38
Maintenance — Stony Brook	263 63
Office expense	2,548 37
Office salaries	24,821 88
Stock	1,679 80
Yard and locker	1,376 74
	<hr/> 230,937 95

Maintenance — Repairs.

Repairing department buildings	\$3,960 32
Repairing catch-basins, South Boston	1,544 94
Repairing catch-basins, East Boston	1,256 95
Repairing catch-basins, Charlestown	7 50
Repairing catch-basins, Brighton	489 93
Repairing catch-basins, West Roxbury	2,329 52
Repairing catch-basins, Dorchester	5,504 92
Repairing catch-basins, Hyde Park	255 55
Repairing catch-basins, Roxbury	3,221 23
Repairing catch-basins, City Proper	3,537 30
Repairing sewers, South Boston	287 99
Repairing sewers, East Boston	2,821 39
Repairing sewers, Charlestown	14 17
Repairing sewers, Brighton	133 98
Repairing sewers, West Roxbury	3,124 27
Repairing sewers, Dorchester	1,390 04
Repairing sewers, Hyde Park	336 86
Repairing sewers, Roxbury	1,268 94
Repairing sewers, City Proper	1,859 56
	<hr/> 33,345 36

Carried forward \$174,545 91

Brought forward \$474,545 91

Maintenance -- Miscellaneous.

Miscellaneous	\$46,042 73	
Back Bay Fens	56 40	
Telephones	775 72	
Rubber goods	179 40	
Pensions and annuities	4,881 33	
Construction charges paid out of "K" item	291,736 94	
		343,672 52
Total		\$818,218 43

CREDITS.

Maintenance stock used on maintenance	\$1,750 90	
Construction stock used on maintenance (not transferred)	4,524 35	
Trucks used on maintenance	46,075 00	
Maintenance pay rolls paid by W. P. A. (not transferred)	17,119 25	
Maintenance pay rolls paid by Sewerage Works (not transferred)	4,065 18	
		73,534 68
		\$744,683 75

DEBITS.

W. P. A. pay rolls paid by maintenance (not transferred)	\$15,336 44	
Sewerage Works pay rolls paid by maintenance (not transferred)	2,765 22	
		18,101 66
Total expenditures, 1940		<u>\$762,785 41</u>

Sewer Division — Maintenance and Expenditures, Details, 1940.

Accounts.	Totals.	Labor.	Autos, Trucks and Cleaning Machines.	Materials.	Contractors.	Miscellaneous.
Automobiles.....	\$46,757 93	\$32,157 45				Equipment..... \$898 55 Tools..... 23 00 Repairs..... 6,335 13 Supplies..... 3,806 09 Storage..... 1,473 19 Fees..... 78 00 Sundries..... 17 00 Light, heat, etc.,..... 69 52 New cars..... 1,910 00
Cleaning catch-basins.....	65,138 78	31,980 96	\$27,687 00	\$386 36	\$5,062 71	Advertising..... 21 75
Cleaning sewers.....	44,152 68	31,818 36	11,066 00	247 62	1,006 20	Dumping..... 14 50
Employed at yards.....	30,929 70	30,929 70				
Fuel and oil.....	527 45					Coal..... 492 49 Kerosene..... 34 96
Hardware and tools.....	1,509 61					Hose..... 440 50 Hardware..... 41 65 Instruments and tools..... 844 20 Repairing..... 183 26
House connections.....	11,231 38	11,118 84	96 00	16 54		
Maintenance, Stony Brook.....	263 63	185 63	78 00			
Office expense.....	2,548 37	1,252 76	405 30	7 90		Repairs..... 49 40 Stationery and postage..... 683 91 Sundries..... 149 10
Office salaries.....	24,821 88	24,821 88				
Stock.....	1,679 80	916 75		763 05		

Yard and locker.....	1,376 74	.....	245 00	120 20	Repairs..... Electric service..... Tools..... Sundries.....	237 98 210 02 457 22 106 32
Miscellaneous.....	46,042 73	43,297 96	2,414 50	317 52	Advertising.....	12 75
Back Bay Pons.....	56 40	.....	.....	.....	Electric service.....	56 40
Telephones.....	775 72	.....	.....	.....	Telephone service.....	775 72
Rubber goods.....	179 40	.....	.....	.....	Boots, 13 pairs..... Mitts, 20 pairs..... Coats, 30..... Hats, 13.....	44 38 35 75 92 75 6 52
Pensions and annuities.....	4,881 33	.....	.....	.....	Veterans..... Laborers.....	4,346 33 535 00
Construction charges paid by H item.....	201,736 94	162,738 03	.....	128,041 29	Sundries.....	957 62
Repair department buildings.....	3,960 32	3,590 65	114 00	255 67	.....	.....
Repair catch-basins, South Boston.....	1,544 94	1,009 16	318 00	217 78	.....	.....
Repair catch-basins, East Boston.....	1,256 95	1,092 32	84 00	80 63	.....	.....
Repair catch-basins, Charlestown.....	7 50	.....	6 00	1 50	.....	.....
Repair catch-basins, Brighton.....	489 93	388 14	39 00	62 79	.....	.....
Repair catch-basins, West Roxbury.....	2,329 52	1,906 99	126 00	206 53	.....	.....
Repair catch-basins, Dorchester.....	5,504 92	3,205 21	765 75	1,533 96	.....	.....
Repair catch-basins, Hyde Park.....	255 55	144 50	42 00	69 05	.....	.....
Repair catch-basins, Roxbury.....	3,221 23	1,845 61	786 00	588 62	Dumping.....	1 00
Repair catch-basins, City Proper.....	3,537 30	2,134 14	816 00	587 16	.....	.....
<i>Carried forward</i>	\$596,718 63	\$386,535 04	\$45,088 55	\$133,594 17	.....	.....
				\$6,068 91	.....	\$25,431 96

Sewer Division — Maintenance and Expenditures, Details, 1940. — Concluded.

ACCOUNTS.	Totals.	Labor.	Autos, Trucks and Cleaning Machines.	Materials.	Contractors.	Miscellaneous.
<i>Brought forward</i>	\$596,718 63	\$386,515 04	\$45,088 55	\$133,594 17	\$6,068 91	\$25,431 96
Repair sewers, South Boston.....	287 99	127 00	90 00	70 99		
Repair sewers, East Boston.....	2,821 39	2,778 92		42 47		
Repair sewers, Charlestown.....	14 17			14 17		
Repair sewers, Brighton.....	133 98	102 75	10 50	20 73		
Repair sewers, West Roxbury.....	3,124 27	2,607 95	397 00	119 32		
Repair sewers, Dorchester.....	1,390 04	1,098 72	186 75	104 57		
Repair sewers, Hyde Park.....	336 86	183 83	47 50	105 53		
Repairs sewers, Roxbury.....	1,208 94	532 00	294 00	442 94		
Repair sewers, City Proper.....	1,859 56	686 14	300 00	873 42		
Totals.....	\$607,955 83	\$394,652 35	\$46,414 30	\$135,388 31	\$6,068 91	\$25,431 96
CREDITS.						
Maintenance, stock used on maintenance jobs, \$1,750 90						
Construction, stock used on maintenance jobs, 4,524 35						
Trucks, used on maintenance jobs..... 46,075 00						
Maintenance pay rolls paid by W. P. A..... 17,119 25 (not transferred)						

Maintenance pay rolls paid by Sewer Works... 4,065 18 (not transferred)	73,534 68	21,184 43	46,075 00	6,275 25		
Totals.....	\$534,421 15	\$373,467 92	\$339 30	\$129,113 06	\$6,068 91	\$25,431 96
DEBITS.						
W. P. A. pay rolls paid by Maintenance..... \$15,336 44 (not transferred)	18,101 66	18,101 66				
Sewer Works pay rolls paid by Maintenance... 2,765 22 (not transferred)						
Total expenditures, outside improved sewerage, 1940,	\$552,522 81	\$391,569 58	\$339 30	\$129,113 06	\$6,068 91	\$25,431 96

IMPROVED SEWERAGE.
Sewer Division — Maintenance and Expenditures, Details, 1940.

Accounts.	Totals.	Labor.	Con- tractors.	Trucks.	Repairs.	Cleaning Wells and Tanks.	Grease, Oil and Gasoline.	Fuel and Power.	Tools, Materials and Instru- ments.	Taxes.	Miscel- laneous.
Pumping Stations:											
Calf Pasture, inside.....	\$71,122 48	\$25,290 18			\$139 38	\$177 10	\$6 23	\$44,480 44	\$850 52		\$169 63
Calf Pasture, outside.....	9,564 73	8,781 31			289 56				493 86		
Calf Pasture, engines.....	35,405 44	33,489 26			366 35		810 06		739 77		
Calf Pasture, boilers.....	36,889 02	12,623 76			270 52		48 25	23,354 36	592 13		
Calf Pasture, Union Park street.....	9,578 41	7,603 50		\$36 00	37 64		13 35	1,577 76	84 73		135 43
Calf Pasture, Summer street.....	2,544 09	1,382 15			21 60			1,140 34			
Moon Island.....	24,263 40	22,030 95			32 35		303 35	313 80	274 80	\$1,308 15	
Main and intercepting sewers.....	20,666 19	9,675 56		6 00	20 00				961 63		2 70
New roof and repair old roof, Calf Pasture Pumping Station.....	228 84		\$228 84								
Total expenditures, improved sewerage, 1940,	\$210,262 60	\$130,975 67	\$228 84	\$42 00	\$1,177 40	\$177 10	\$1,181 24	\$70,866 70	\$3,997 74	\$1,308 15	\$307 76

Recapitulation, Maintenance, Detail, 1940.

ACCOUNTS.		Improved Sewers.	Outside Improved Sewers.	Totals.
LABOR.				
Contractors.....		\$130,975 67	\$399,533 68	\$530,509 35
Autos.....		228 84	6,068 91	6,297 75
Repairs.....		42 00	46,414 30	46,456 30
Cleaning wells and tanks.....		1,177 40	6,805 77	7,983 00
Grease, oil and gasoline.....		177 10		177 10
Fuel, power and light.....		1,181 24		1,181 24
Tools and instruments.....		70,866 70		71,730 09
Materials.....		3,997 74		5,762 66
Equipment and supplies.....			135,388 31	135,388 31
Storage.....			7,519 60	7,519 60
Telephones.....			1,473 19	1,473 19
Taxes.....		1,308 15	775 72	1,775 72
Sundries.....		307 76		1,308 15
Totals.....		\$210,262 60	\$607,955 83	\$818,218 43
CREDITS.				
		Improved Sewers.	Outside Improved Sewers.	
Autos.....		\$48 00	\$46,027 00	
Materials.....		4 82	6,270 43	
Maintenance pay rolls paid by W. P. A.....			17,119 25	
Maintenance pay rolls paid by Sewerage Works.....			4,065 18	
Totals.....		52 82	73,481 86	73,534 68
		\$210,209 78	\$534,473 97	\$744,683 75
DEBITS.				
W. P. A. pay rolls paid by maintenance.....				
Sewerage Works pay rolls paid by maintenance.....				
Totals.....			18,101 66	18,101 66
Total expenditures, Sewer Division, 1940.....		\$210,209 78	\$552,575 63	\$762,785 41

Sewerage Works, 1940.

ACCOUNTS.	Totals.	Labor.	Compressors, Pumps and Trucks.	Tools and Materials.	Contractors.	Sundries.
Miscellaneous, W. P. A.....	\$67,253 47	\$28,783 09	\$11,994 18	\$24,504 31	.....	\$1,971 89
Manhole Survey, W. P. A.....	714 52	.....	145 60	549 20	.....	19 72
Engineers' and officers' salaries.....	56,826 01	56,826 01	.....	.....	.....	.....
Engineers' expense.....	8,734 67	768 91	2,873 43	1,492 43	\$650 80	2,949 10
Miscellaneous, Sewerage Works.....	2,159 12	1,178 63	239 50	740 49	.....	50
Land-takings.....	410 00	.....	.....	.....	.....	410 00
New manholes.....	4,678 69	2,702 58	453 00	716 15	801 46	5 50
New catch-basins, South Boston.....	4,247 54	2,691 85	594 00	959 69	.....	2 00
New catch-basins, East Boston.....	150 80	28 00	.....	122 80	.....	.....
New catch-basins, Charlestown.....	988 02	.....	.....	.....	988 02	.....
New catch-basins, Brighton.....	1,329 77	296 89	15 00	192 03	825 85	.....
New catch-basins, West Roxbury.....	1,818 48	1,015 83	36 00	216 86	549 79	.....
New catch-basins, Dorchester.....	1,366 91	931 59	106 50	328 82	.....	.....
New catch-basins, Hyde Park.....	209 50	130 56	.....	78 94	.....	.....
New catch-basins, Roxbury.....	7,666 18	5,637 12	840 00	1,176 06	.....	13 00
New catch-basins, City Proper.....	6,407 95	4,268 17	858 00	1,270 78	.....	11 00
Release sewers.....	2,121 42	2,057 84	.....	63 58	.....	.....
Stock.....	6,701 02	.....	.....	6,701 02	.....	.....

Holiday.....	745 51	740 59	745 51	745 51	745 51
Unadvertised jobs.....	8,376 16		2,807 62	4,827 95	
Totals.....	\$182,905 74	\$108,037 66	\$42,666 29	\$8,643 87	\$5,382 71
Sewers built, entire by city.....	264,827 30	135,202 06	70,371 51	22,781 38	1,367 17
Totals.....	\$447,743 04	\$243,259 72	\$113,037 80	\$31,425 25	\$6,749 88
Construction paid by H item.....	\$274,617 69	146,965 18	35,997 53		1,529 91
W. P. A. labor paid by maintenance.....	15,336 22	15,336 44			
Sewerage works labor paid by maintenance.....	2,765 22	2,765 22			
Materials used on sewerage works construction.....	6,040 55		6,040 55		
Materials used on W. P. A. construction.....	8,612 40		8,612 40		
Trucks used on sewerage works.....	3,316 50		3,316 50		
Trucks used on W. P. A. construction.....	5,378 50		5,378 50		
Debit Transfers:					
Paving Service.....	3,700 00	3,700 00			
Water Service.....	2,500 00	2,500 00			
Bridge Service.....	2,300 00	173,566 84	104,778 02		1,529 91
Totals.....	\$123,175 74	\$69,692 88	\$8,139 78	\$31,425 25	\$5,219 97
Maintenance labor paid by sewerage works.....	4,065 18	4,065 18			
Total expenditures sewerage works, 1940.....	\$127,240 92	\$73,758 06	\$8,159 78	\$31,425 25	\$5,219 97

P. W. A., 1940.

Location.	Began.	Finished.	Built by.	Length in Feet.	Character.	Amount Expended in 1940.
Beaver place, from Embankment road to Beaver street.	Dec. 4, 1934	July 17, 1935	A. Baruffaldi.	.....	Final estimate.	\$1,150 92
Dorchester Brook Sewer, from Dudley street to Quincy street.	Aug. 19, 1935	Dec. 23, 1935	P. DeCristoforo Company, Inc.	.....	Final estimate	500 00
Stony Brook (section 13), Neponset avenue to 400 feet northeasterly of Mt. Hope street.	Aug. 1, 1934	July 31, 1935	George A. Fuller Company.	.....	Final estimate.	3,550 39
Miscellaneous.	.....	.....	.....	.....	Redemption of loan.	19,745 15
Total expenditure for 1940	.....	.....	.....	.....	.....	\$24,946 46

Sewerage Works, Construction, January 1, 1940, to December 31, 1940, Inclusive.

Location.	Regun.	Finished.	Built by.	Length in Feet.	Character.	Amount Expended in 1940.
SOUTH BOSTON.						
Northern avenue, from existing sewer manhole, 525 feet east of D street to 532 feet easterly.	Oct. 11, 1937	Dec. 31, 1937	Edward M. Matz, Inc.		No construction in 1940.	\$100 00
Mercer street, between Vale street and East Ninth street; East Ninth street, between Mercer street and Dorchester street, and Columbia road, between Champlain street, and 122 feet southerly.	Nov. 13, 1939	July 25, 1940	W. P. A.	197.00 740.00 7.00 123.00 11.00	4' 8" by 5' 9 1/2" concrete sewer. 3' 6" by 5' 9 1/2" concrete sewer. 2' 6" by 3' concrete sewer. 15" pipe, sewer. 10" pipe, catch-basin drain. 7 manholes.	14,767 35
Private land, off E street.	June 11, 1940	Nov. 9, 1940	W. P. A.	92.60	5' Armo asbestos bonded metal pipe overflow. 1 manhole.	1,254 93
EAST BOSTON.						
Private land, near West street, under Boston, Revere Beach and Lynn Railroad.	April 24, 1940	Nov. 5, 1940	Department labor.	74.50 48.00	18" Armo asbestos bonded metal pipe, surface drain. 20" cast-iron pipe, surface drain. 1 tide-gate chamber and double 18" gates. 1 catch-basin.	1,320 80
CHARLESTOWN.						
Decatur street.	Nov. 6, 1939	Dec. 22, 1939	W. P. A.		No construction in 1940.	90 33
Chapman street, from Rutherford avenue to Lawrence street.	May 23, 1938	Nov. 2, 1938	W. P. A.		No construction in 1940.	156 00
Housing project.			W. P. A.		Inspecting house drains.	91 80

Sewerage Works, Construction, January 1, 1940, to December 31, 1940, Inclusive.—(Continued.)

Location.	Begun.	Finished.	Built by.	Length in Feet.	Character.	Amount Expended in 1940
BRIGHTON.						
Madeline street, 75 feet north of Howitt road.			W. P. A. (paving project).		Inspection.	\$32 52
Euston road, from Colborne road to Commonwealth avenue.	March 11, 1940	May 6, 1940	W. P. A.	93.00 90.00	10" pipe, surface drain. 10" pipe, sewer.	1,180 88
Sanderson place.	May 6, 1940	July 27, 1940	W. P. A.	454.00 102.00	12" pipe, surface drain. 15" pipe, sewer.	2,473 76
Upland road (changed to Ujcrest road)	Oct. 9, 1940	Oct. 15, 1940	W. P. A.		No construction in 1940	210 37
Portina road, from Willsline road to 100 feet southwest of Colwell avenue.	Nov. 8, 1940	Not completed.	W. P. A.	287.00 102.00	12" pipe, surface drain. 15" pipe, sewer.	1,782 78
Western avenue, new office building.	Aug. 6, 1940	Not completed.	W. P. A.		One 40' by 80' brick and steel office building constructed.	10,367 77
Faneuil street, from Sanderson place to 90 feet northwest; Sanderson place, from Faneuil street to end of street; private land, from Faneuil street to 30 feet northerly.	May 6, 1940	July 27, 1940	W. P. A.		No construction. See Sanderson place.	29 86
Shepard Brook in private land, from Sorrento street to North Harvard street.	Not started.		W. P. A.		No construction in 1940. Preliminary engineering.	187 25
Kenrick street, from Larch street to Newton line.	May 16, 1938	April 11, 1939	W. P. A.		Trucks and materials used in 1940.	716 60
WEST ROXBURY.						
Carolina avenue, between Call street and South street; John A. Andrew street, Newbern street and Everett street.	Oct. 14, 1940	Not completed.	W. P. A.	110.00 135.00 50.00 347.00	24" pipe, surface drain. 18" pipe, surface drain. 10" pipe, surface drain 12" pipe, surface drain. 3 manholes. 2 catch-basins.	5,129 63

DeSoto road, Trevor street, Willen street, Edgenere road and outlet in private land in West Roxbury and Hyde Park, to Colburne street.	Feb.	13, 1939	Mar.	12, 1940	W. P. A.	338.77 900.00 162.54 171.47 207.74	15" pipe, surface drain. 10" pipe, surface drain. 18" pipe, surface drain. 15" pipe, surface drain. 2' 3" concrete conduit. 14 manholes. 10 catch-basins.	5,952 97
Freeman avenue, between Washington street and Grove street.	Dec.	19, 1939	June	22, 1940	W. P. A.	591.38 592.98	10" pipe, sewer. 10" pipe, surface drain. 4 manholes.	5,138 16
Condit street, between 145 feet northwest of Hamilton street to Spring street.	Jan.	15, 1940	April	19, 1940	W. P. A.	207.00 405.00 609.00	12" pipe, surface drain. 10" pipe, surface drain. 10" pipe, sewer. 3 manholes.	3,300 83
Highview avenue, between Washington street and 128 feet northwest and Washington street between Highview avenue and Washington Heights avenue.	Dec.	19, 1939	May	18, 1940	W. P. A.	211.07 123.36 551.38	20" pipe, surface drain. 15" pipe, surface drain. 10" pipe, sewer. 2 catch-basins.	3,420 66
Hillock street, between Walworth street and Cornell street.	Jan.	8, 1940	May	8, 1940	W. P. A.	706.00	10" pipe, surface drain. 3 manholes. 2 catch-basins.	3,329 57
Leland road, from Hackensack road to 375 feet southerly.	Jan.	3, 1940	May	18, 1940	W. P. A.	195.00 173.00 373.00	12" pipe, surface drain. 10" pipe, surface drain. 10" pipe, sewer. 1 manhole.	3,504 45
Bussey street, from 400 feet easterly of Walter street and outlet in land of Arnold Arthropium to Bussey Brook. (Paving Service furnished W. P. A. labor; Sewer Division furnished stock, engineering and inspection.)	July	18, 1940	Oct.	27, 1940	W. P. A.	192.00 44.00	12" pipe, surface drain. 10" pipe, surface drain. 3 manholes. 4 catch-basins.	1,247 85
Maple street, between Centre street and Weld street.	Nov.	19, 1939	Jan.	13, 1940	W. P. A.		No construction in 1940.	19 83
Petrel road, from Washington street 326 feet northwesterly.	Jan.	10, 1940	May	7, 1940	W. P. A.	324.25 324.25	10" pipe, surface drain. 10" pipe, sewer. 2 catch-basins.	2,220 17
Robert street and Weld street	Jan.	10, 1940	Jan.	16, 1940	W. P. A.		No construction in 1940.	30 60

Sewerage Works, Construction, January 1, 1940, to December 1, 1940, Inclusive.—Continued.

Location.	Begun.	Finished.	Built by.	Length in Feet.	Character.	Amount Expended in 1940.
<i>West Roxbury.—Continued.</i>						
Walton road, from La Grange street to Dent street.	Jan. 15, 1940	June 15, 1940	W. P. A.	175.00	10" pipe, surface drain.	\$953 11
Weld street and outlet in private land, Arnold Arboretum.	Dec. 3, 1940	Not completed.	W. P. A.		No construction in 1940	616 65
Woodbourne road, between Eastland road and Eastland road.	Jan. 15, 1940	May 7, 1940	W. P. A.	160.00 364.00 325.00	12" pipe, surface drain. 10" pipe, surface drain. 10" pipe, sewer. 3 manholes.	3,144 33
Blasting rock in West Roxbury and Brighton.	Jan. 15, 1940	Not completed.	R. Zoppo.		Blasted 1,661.53 cubic yards rock.	5,649 20
Cottage avenue, from 110 feet east of Howitt road to Myles Standish avenue.	Nov. 9, 1939	Nov. 25, 1939	John Williams		No construction in 1940. Final payments.	350 18
Pradstreet avenue, between Mt. Hope street and 140 feet easterly.	Jan. 15, 1940	Feb. 13, 1940	W. P. A.	139.40	10" pipe, surface drain. 1 manhole.	695 19
Washington street, between Edgemore road and Washington Heights avenue.	Feb. 6, 1940	May 17, 1940	W. P. A.	19.25	12" pipe, surface drain. 1 manhole. 2 catch-basins.	4,391 18
Stony Brook 150 feet southwest of Mt. Hope street to 30 feet southwest of Stella road in city land.	Dec. 2, 1938	Dec. 9, 1939	W. P. A.		No construction in 1940.	195 11
Blasting rock for sewer works in West Roxbury and Brighton.	April 10, 1939	Dec. 29, 1939	Marinucci Bros. Company		No construction in 1940 final payment.	516 88
Atlantis street, from Lasell street to Veteran of Foreign Wars Highway.	Sept. 17, 1940	Nov. 1, 1940	W. P. A.	200.00 359.00	12" pipe, surface drain. 10" pipe, surface drain. 2 manholes. 2 catch-basins.	2,191 71

Morey road, from Buchanan road to Vincent road and Vincent road from Morey road 460 feet westerly.	Nov. 18, 1940	Not completed.	W. P. A.	Excavating and blasting, no construction in 1940.	2,946 03
Riverview road, from existing sewer to 500 feet south of Upland road.	.....	.....	W. P. A.	Preliminary engineering, no construction in 1940.	284 49
Spaulding street outlet, between Washington street and New York, New Haven and Hartford Railroad.	Not started.	.....	W. P. A.	Preliminary engineering, no construction in 1940.	50 84
Spring street Parental Home	.....	.....	W. P. A.	Engineering, no construction in 1940.	226 14
Addington road, from Bonair street to end of street.	Not started.	.....	W. P. A.	Preliminary engineering.	50 83
Bonair street, between Veterans of Foreign Wars Highway and Addington road.	Dec. 7, 1938	May 17, 1939	W. P. A.	Engineering.	186 71
Eastwood Circuit, from Prospect street to Prospect street.	July 16, 1940	Nov. 12, 1940	W. P. A.	Engineering, no construction in 1940.	587 82
Edinwood street back to Keystone.	Nov. 17, 1940	Not completed.	W. P. A.	Excavation.	1,851 73
Halliday street, from Niponset avenue to Bourne street.	Nov. 29, 1940	Not completed.	W. P. A.	Excavating only.	1,221 25
Bangor road, from Russett road to Bonad road.	Aug. 19, 1940	Oct. 15, 1940	W. P. A.	12" pipe, surface drain. 10" pipe, surface drain. 2 manholes. 2 catch-basins.	1,619 86
Goldsmith Brook in private land in Neilliam Crescent and Pond street.	Feb. 13, 1939	Nov. 18, 1939	W. P. A.	Trucks, clean-up, no construction in 1940.	797 72
Lvall street, from Veterans of Foreign Wars Highway to Addington road.	Not started.	.....	W. P. A.	Engineering.	152 69
Sunset Hill path, from Centre street to Sunset Hill road.	Not started.	.....	W. P. A.	Engineering.	50 85
Veterans of Foreign Wars Parkway, from La Grange street to Bonair street.	Nov. 18, 1940	Not completed.	W. P. A.	20" pipe, surface drain. 1 manhole.	2,777 47
Cowing street, from Searle road to 160 feet northwest.	Nov. 26, 1940	Not completed.	W. P. A.	No construction in 1940.	1,069 68

Sewerage Works, Construction, January 1, 1940, to December 31, 1940, Inclusive.—Continued.

LOCATION.	Began.	Finished.	Built by.	Length in Feet.	Character.	Amount Expended in 1940.
<i>WEST ROXBURY.—Concluded.</i>						
Willow street (paving project)	Sept. 1940	.....	W. P. A.	.....	No construction in 1940.	\$235 00
Bourne road, from Eastland road to Eastland road.	Nov. 18, 1940	Not completed.	W. P. A.	594 00 589 00	12" pipe, surface drain. 10" pipe, sewer. 3 manholes.	1,137 12
Glenhaven road, and outlet in Keystone street and private land.	Dec. 20, 1938	May 5, 1939	W. P. A.	.....	No construction in 1940. Trucks and iron work.	619 36
Newfield street, between Veterans of Foreign Wars Parkway and Labell street.	Jan. 23, 1939	May 5, 1939	W. P. A.	.....	No construction in 1940.	407 08
<i>DORCHESTER.</i>						
Blasting rock, for sewerage works in Dorchester and Hyde Park.	April 11, 1939	Dec. 28, 1939	John Williams.	.....	74.56 cubic yards of blasting, final payment.	961 04
Private land back of Ericsson street, from Ericsson street to end of overflow.	Oct. 16, 1939	Dec. 5, 1939	Department labor.	.....	Materials paid for in 1940.	84 00
Maryknoll street, from Morton street to 140 feet southwesterly.	Dec. 18, 1939	Dec. 28, 1939	John Williams.	.....	Final payment.	575 09
Ashmont street, Dorchester; private land, from Ashmont street to Westglow street; Westglow street from private land to Laban Pratt road; Frost avenue, from Westglow street to 352 feet northerly; Arbroth street from Laban Pratt road 312 feet westerly.	Aug. 28, 1938	Jan. 7, 1939	W. P. A.	.....	No construction in 1940.	44 96
Avondale street, between St. Gregory street and Richmond street.	Oct. 6, 1939	Dec. 21, 1939	W. P. A.	.....	No construction in 1940.	48 52

Blue Hill avenue, from American Legion Highway to Charlotte street.	Mar. 11, 1940	Nov. 23, 1940	W. P. A.	917.58	12" pipe, surface drain. 6 manholes. 7 catch-basins.	5,296 75
Codman park (Highway Division project).			W. P. A.		No construction in 1940.	5 12
Daly street, between Rosemont street and Rossierin road.	Nov. 20, 1939	Jan. 5, 1940	W. P. A.	3.50 20.60	15" pipe, surface drain. 12" pipe, surface drain. 1 manhole.	405 75
Dyer avenue (Paving Service project).	Nov. 1, 1939	Jan. 22, 1940	W. P. A.		Engineering	79 86
Deer street, from Melvin's terrace to Savin Hill avenue.	Aug. 25, 1940	Sept. 25, 1940	W. P. A.	16.00	10" pipe, sewer. 1 manhole.	278 92
Halborn street, between Delhi street and West Selden street.	Nov. 30, 1939	March 23, 1940	W. P. A.	37.27 253.32 14.00 34.75	15" pipe, surface drain. 12" pipe, surface drain. 12" cast-iron pipe, surface drain. 10" pipe, sewer.	2,927 53
Harvard street, 1,040 feet north of Cummins Highway; 900 feet northeasterly and outlet in Mt. Hope Cemetery, Dorchester and Hyde Park.	Nov. 18, 1940	Not completed.	W. P. A.	275.00	12" pipe, surface drain	766 39
Jacob street (Paving Service project).	Nov. 1, 1939	Jan. 11, 1940	W. P. A.		Inspection	78 52
Nalant avenue extension and outlet in Newhall street and Pierce avenue.	June 14, 1938	Sept. 24, 1938	W. P. A.		Resurfacing	22 27
Stock street, between 60 feet northwest of Gallivan Boulevard and 181 feet northwesterly.	Aug. 7, 1940	Sept. 9, 1940	W. P. A.	186.50 167.15	15" pipe, surface drain. 10" pipe, sewer.	3,355 79
Tilleshoro street, between Neponset avenue and Worrell street.	Sept. 26, 1940	Oct. 28, 1940	W. P. A.	200.28	10" pipe, sewer.	525 71
Blasting rock in Dorchester and Hyde Park.	Jan. 12, 1940	Not completed.	R. Zoppo		1,661.05 cubic yards, blasting.	6,810 20
Boutwell street.			W. P. A.		Engineering	112 24
Brockton street, between Cummins Highway and Messinger street.	March 18, 1940	May 20, 1940	W. P. A.	780.00	12" pipe, surface drain. 4 catch-basins. 5 manholes.	2,328 85

Sewerage Works, Construction, January 1, 1940, to December 31, 1940, Inclusive.—(Continued.)

LOCATION.	Begun.	Finished.	Built by.	Length in Feet.	Character.	Amount Expended in 1940.
DORCHESTER.— <i>Continued.</i>						
Currier street, between Alabama and Kennebec street, and Kennebec street, between Currier street and 380 feet southwesterly.	May 13, 1940	Dec. 13, 1940	W. P. A.	617.85 639.78 7.00	12" pipe, surface drain. 12" pipe, sewer. 12" cast-iron pipe, surface drain. 6 manholes.	\$6,276 55
Rockingham road, between Cummins Highway and Greenfield road.	March 11, 1940	Nov. 23, 1940	W. P. A.	622.00	12" pipe, surface drain. 4 manholes. 2 catch-basins.	1,653 78
Victoria road, between 100 feet south of Gallivan Boulevard and 490 feet southerly.	May 21, 1940	Aug. 7, 1940	W. P. A.	395.19 471.65 14.00	10" pipe, sewer. 12" pipe, surface drain. 12" cast-iron pipe, surface drain. 5 manholes.	3,588 97
Anafran avenue, Pleasantview street and private land.	Not started.		W. P. A.		Engineering.	6 61
Alabama street, from Currier street to Messinger street.	Sept. 30, 1940	Dec. 20, 1940	W. P. A.	495.30 481.30 11.00	10" pipe, sewer. 12" pipe, surface drain. 12" cast-iron pipe, surface drain. 4 catch-basins. 5 manholes.	2,500 36
Cheverus road, from Dorchester avenue to end of street.	April 19, 1940	May 19, 1940	W. P. A.	330.35 120.00	12" pipe, surface drain. 12" pipe, surface drain. 2 catch-basins. 3 manholes.	783 92
Gallivan Boulevard (north side), from 225 feet northeast of Hallet street to 515 feet northeasterly.	Oct. 14, 1940	Dec. 31, 1940	W. P. A.	520.07 496.42 14.00	12" pipe, sewer. 12" pipe, surface drain. Cast-iron pipe, surface drain. 6 catch-basins. 6 manholes.	4,842 30

Stow road, from Tiverton road 620 feet southeasterly and outlet in Tiverton road, between Lorna road and Stow road.	Nov. 18, 1940	Not completed...	W. P. A.	Excavated.....	1,603 76
New tide gates in Dorchester brook, sewer at Massachusetts avenue.	May 25, 1940	July 22, 1940	Angelo Grande	Furnish and install 8 new tide gates, frames, etc.	4,283 87
Matthews street to dead end (house connection to paving yard).	May, 1940	June, 1940	W. P. A.	New house drain.....	189 36
Talbot avenue, from Peabody square to Washington street.	Not started.....		W. P. A.	Engineering.....	20 12
Range road, between Dorchester avenue and Barna road, Gally avenue, 80 feet northwest of Barna road and 170 feet southeasterly. Barna road, between Range road and Gally avenue, Dorchester avenue at Range road.	June 17, 1940	Sept. 28, 1940	W. P. A.	15" pipe, surface drain..... 12" pipe, sewer..... 10" pipe, sewer..... 12" pipe, surface drain..... 9 manholes..... 3 catch-basins.....	6,152 75
Auckland street and Elton street.....	March 28, 1937	July 16, 1938	W. P. A.	Iron work, reported, 1940.....	130 48
Richmond street (changed to Richmond road) and outlet in Bismarck street.	July 18, 1938	Aug. 31, 1939	W. P. A.	Repaired lawn.....	11 40
Constance street, from Adams street to 490 feet easterly.	Not started.....		W. P. A.	Engineering.....	25 26
Cedar Grove street, from Hallet-Davis street to 494 feet southwesterly.	Sept. 10, 1940	Nov. 7, 1940	W. P. A.	12" pipe, surface drain.....	1,908 77
Ashmont street, from Savin Hill avenue to Walk Hill street.	Not started.....		W. P. A.	Engineering.....	427 59
Garner road, between 170 feet north of Westglow street to 236 feet northerly, and between Westglow street and 80 feet southerly.	Sept. 25, 1940	Oct. 19, 1940	W. P. A.	12" pipe, surface drain..... 4 catch-basins..... 1 manhole.....	551 51
Glide street.....	Not started.....		W. P. A.	Engineering.....	16 90
Rasca street at Cummins Highway.....	Not started.....		W. P. A.	Engineering.....	337 56

Sewerage Works, Construction, January 1, 1940, to December 31, 1940, Inclusive.—Continued.

Location.	Begun.	Finished.	Built by.	Length in Feet.	Character.	Amount Expended in 1940.
DORCHESTER. <i>Continued.</i>						
Russellin road, from Train street to Daly street.	Not started.....	.....	W. P. A.....	.....	Engineering.....	\$10 56
Wendover street, from Dudley street to dead end.	Not started.....	.....	W. P. A.....	.....	Engineering.....	5 64
Beatrice street, between Paula road and Groveland street, Rania road, from Gally avenue to 140 feet northeasterly and easterly, Gally avenue, from 40 feet southeast of Mercer avenue to 380 feet southeasterly.	Not started.....	.....	W. P. A.....	.....	Engineering.....	177 73
Savannah avenue, from 225 feet south of Canaan street to 683 feet northeasterly.	Dec. 20, 1937.....	April 13, 1938.....	W. P. A.....	.....	Records.....	52 14
Woodhaven street and outlet in private land.	Dec. 20, 1937.....	April 13, 1938.....	W. P. A.....	.....	Records.....	47 06
Port Norfolk street (paving project).....	.....	.....	W. P. A.....	.....	Materials and trucks.....	197 07
HYDE PARK.						
Behind Village: Osceola street, Redud road, Hopewell road, Coronado road, Poydras street and Friendship road.	May 6, 1940.....	Dec. 13, 1940.....	W. P. A.....	386.55 541.53 27.00 289.00 900.00 1,712.03	21" reinforced concrete pipe, surface drain. 18" reinforced concrete pipe, surface drain. 24" Armo surface drain. 24" pipe, surface drain. 15" pipe, surface drain. 12" pipe, surface drain. 23 catch-basins. 32 manholes. 3 drop inlets.	20,801 38
Chittick road (highway project).....	.....	.....	W. P. A.....	.....	Inspection.....	54 10

Mariposa street and outlet in Blake street and Taunton avenue (Oakland brook, section 3, Hyde Park Branch).	Dec.	18, 1939	Oct.	20, 1940	W. P. A.	716.00 1,072.55 354.00 639.00 642.00	12" pipe, surface drain. 15" pipe, surface drain. 20" pipe, surface drain. 24" pipe, surface drain. 12" pipe, sewer. 24 manholes. 14 catch-basins.	9,465 79
Wood avenue, between Frager street and Mariposa street, and Taunton avenue, between Wood avenue and 407 feet east of existing sewer.	Nov.	20, 1939	Not completed..		W. P. A.	812.57 418.10 813.19 302.46 1,162.64 623.01	24" pipe, surface drain. 20" pipe, surface drain. 18" pipe, surface drain. 15" pipe, surface drain. 12" pipe, surface drain. 10" pipe, surface drain. 14 catch-basins. 25 manholes.	16,296 89
West street, Hyde Park, between Gwinnett street and Hyde Park line, and Poplar street, West Roxbury, between Hyde Park line and Beech street, West Roxbury.	June	5, 1940	June	14, 1940	W. P. A.		Engineering.	514 56
Williams avenue, between Highland street and Prospect street.	Nov.	18, 1940	Not completed..		W. P. A.	300.00 290.00 295.00	24" pipe, surface drain. 20" pipe, surface drain. 10" pipe, surface drain. 5 manholes.	2,021 01
West Milton street, from Readville street to Dedham line.	July	22, 1940	Sept.	10, 1940	W. P. A.	818.00	12" pipe, surface drain. 4 catch-basins. 3 manholes.	2,878 78
Farrar avenue, 900 feet east of Ruskin road to 296 feet easterly.	Nov.	8, 1937	Feb.	8, 1938	Roxbury Concrete Construction Company.		Records.	16 50
Allison street, from Beacon street to Highland street.	May,	1940			W. P. A.		Preliminary engineering.	16 80
Davison street, between Arlington street and Fairmount street.	May,	1940			W. P. A.		Preliminary engineering.	4 80
Pleasantview street, between Chummins Highway and Roanoke road and outlet in Annafron street.	Nov.	18, 1940	Not completed..		W. P. A.		Excavated.	1,029 78

Sewerage Works, Construction, January 1, 1940, to December 31, 1940, Inclusive.—Continued.

LOCATION.	Begun.	Finished.	Built by.	Length in Feet.	Character.	Amount Expended in 1940.
<i>HYDE PARK.—Concluded.</i>						
Spring Hill road and Highland street, from Milton avenue to Milton avenue.	May, 1940	.....	W. P. A.	.....	Preliminary engineering.	\$34 35
Milton avenue and Fairmount avenue.	Sept., 1940	Not completed.	W. P. A.	.....	Engineering.	279 58
Walter street, from New York, New Haven and Hartford Railroad to River street.	Oct. 7, 1940	Not completed.	W. P. A.	300.00 200.00	2' 9" circular concrete conduit 10" pipe, sewer.	4,537 77
Warren avenue, between Beacon street and Summit street.	May, 1940	.....	W. P. A.	.....	Preliminary engineering.	40 85
Ruskindale road, from Blake street to Wood avenue.	Aug., 1940	.....	W. P. A.	.....	Preliminary engineering.	199 61
Rosebery road, from Taunton avenue to Greenfield road, and outlet in Taunton avenue, Dorchester and Hyde Park.	Sept., 1940	.....	W. P. A.	.....	Preliminary engineering.	45 04
Summer brook, in public land, and Lewis street, between Frazer street and Edwards street.	Sept., 1940	.....	W. P. A.	.....	Preliminary engineering.	623 39
Wingate road, from Neponset River Parkway to 282 feet northeasterly.	Sept., 1940	.....	W. P. A.	.....	Preliminary engineering.	41 46
Atherton avenue.	Oct., 1940	.....	W. P. A.	.....	Preliminary engineering.	69 91
Liiae road, from Central avenue to Arlington street.	Sept. 7, 1940	Dec. 19, 1940	W. P. A.	148.90 359.10	18" pipe, surface drain. 12" pipe, surface drain. 7 catch-basins. 4 manholes.	2,067 21
Tampa street, from Cummins Highway to Seminole street.	Dec. 12, 1940	Not completed.	W. P. A.	.....	No construction in 1940	232 42

ROXBURY.

Tremont street, from Prentiss street, to Lenox street (Water Service project).	Jan.	1940	May,	1940	W. P. A.	Inspection.	799 52
Brinton street (Highway project).	Nov.	15, 1939	Dec.	30, 1939	W. P. A.	2 catch-basins, construction.	86 59
Private land in rear of Beech Glen street and outlet through Oakview avenue.	Sept.	8, 1939	Nov.	10, 1939	Appel & O'Toole	No construction in 1940, final payments.	422 31
Juniper Terrace, from Washington street to 71 feet westerly.	Mar.	13, 1940	May	4, 1940	W. P. A.	43.50 10" pipe, sewer. 21.00 10" cast iron pipe, sewer. 43.00 10" pipe, surface drain. 24.00 pipe, minor drain. 1 catch basin. 1 drop-inlet. 1 manhole.	1,134 86
Shedland street, between 70 feet south of Shirley street to 206 feet southwesterly.	May	6, 1940	June	25, 1940	W. P. A.	206.50 12" pipe, sewer. 22.00 10" catch basin, drain. 2 manholes. 2 catch-basins.	1,400 30
Highland street (Roxbury demolition and erection project).	July	2, 1940	Not completed.		W. P. A.	Demolition completed and construction started.	5,172 84
Housing project (Mission Hill).	Aug.	1940			W. P. A.	Engineering.	80 32
Minden street, between Bickford street and Wahlen street.	Sept.	1940			W. P. A.	Engineering.	659 80
Maywoods brook in Laurel street and Ottawa street, from Dale street to Sherman street.	April	23, 1935	Oct.	24, 1935	James J. Coughlin and Sons, Inc., P. W. Riordan (Receiver).	Final payment and award for breach of contract.	750 00
Maywoods brook in Sherman street, Ottawa street and Bower street, from Ottawa street to Warren street.	Dec.	1940	Not completed.		W. P. A.	Engineering.	293 99
Newark street (Paving project).	Dec.	3, 1940	Dec.	17, 1940	W. P. A.	1 manhole. 1 catch-basin. 2 drain inspections.	288 96

Sewerage Works, Construction, January 1, 1940, to December 31, 1940, Inclusive. — Concluded.

LOCATION.	Begin.	Finished.	Built by.	Length in Feet.	Character.	Amount Expended in 1940.
CITY PROPER.						
Hamington avenue subway	Jan. 1, 1940	Dec. 31, 1940	W. P. A.		Inspection only	\$2,293 39
Central Wharf, from Atlantic avenue to 650 feet easterly.	Dec. 8, 1938	Sept. 1, 1939	N. Cilibotti & Co.		Final payments. No construction in 1940.	4,685 73
Central Wharf, from Atlantic avenue to 650 feet easterly (repaving).	Sept. 20, 1939	Oct. 7, 1939	Frank J. Jacobs.		No construction in 1940	6 00
Newbury street (southeast side), from Berkeley street to 442 feet southwesterly.	March 11, 1940	May 18, 1940	W. P. A.	436.58 432.46 28.00	18" by 15" U-shaped concrete sewer. 24" by 18" U-shaped concrete surface drain. Minor drain. 7 manholes.	6,053 88
Trenton street, between Lenox street and 50 feet northeast of Camden street.	May 20, 1940	July 27, 1940	W. P. A.	82.24 377.78 8.00 68.00	36" by 48" concrete sewer. 36" cast-iron pipe, sewer. 15" pipe, sewer. 16" pipe, catch-basin drain. 7 manholes.	4,308 86
Massachusetts avenue, between Albany street and Columbus avenue.	July 11, 1940	Dec. 18, 1940	W. P. A.	51.00 152.00 16.00 542.00	15" pipe, surface drain. 12" pipe, surface drain. 12" pipe, catch-basin drain. 10" pipe, minor drain. 40 catch-basins. 2 drop inlets. 6 catch-basins remodelled into holes.	5,957 91
Trenton street, from Rutland square to Arlington square.	July 29, 1940	Nov. 1, 1940	W. P. A.	88.80 656.80 989.02 532.70 16.00	15" pipe, surface drain. 12" pipe, surface drain. 12" pipe, sewer. 10" pipe, catch-basin drain. 6" pipe, minor drain. 15 manholes.	6,393 69
East Dedham street	Dec., 1940	Not completed ..	W. P. A.		Engineering	103 28

Summary of Sewer Construction for the Twelve Months Ending December 31, 1940.

DISTRICTS.	Built by the City Either by Contract or Day Labor.	Built by the City Under Auspices of W. P. A.	Built by Private Parties or Other City Departments.	Total Lengths Built.	
	<i>Linear Feet.</i>	<i>Linear Feet.</i>	<i>Linear Feet.</i>	<i>Linear Feet.</i>	<i>Miles.</i>
City Proper.....	131.00	2,806.66	810.50	3,748.16	0.710
Roxbury.....		722.02	2,715.10	3,437.12	0.651
South Boston.....		1,159.60		1,159.60	0.220
East Boston.....	122.50	None.		122.50	0.023
Charlestown.....					
Brighton.....	214.71	1,026.00	215.00	1,455.71	0.276
West Roxbury.....	2,047.96	13,349.28	2,015.48	17,412.72	3.298
Dorchester.....	172.00	10,463.19	70.00	10,705.19	2.027
Hyde Park.....	2,490.82	14,122.63	2,411.30	19,024.75	3.603
Totals.....	5,178.99	43,649.38	8,237.38	57,065.75	10.808

Summary of Sewer Construction for Five Years Previous to January 1, 1941.

	1936.	1937.	1938.	1939.	1940.
	<i>Linear Feet.</i>	<i>Linear Feet.</i>	<i>Linear Feet.</i>	<i>Linear Feet.</i>	<i>Linear Feet.</i>
Built by the city by contract or day labor....	7,166.08	10,717.02	2,371.75	1,959.27	5,178.99
Built by the city under auspices of W. P. A. .	17,726.55	43,986.51	43,239.69	39,096.06	43,649.38
Built by private parties or other city departments.....	1,145.00	1,786.79	1,771.00	3,087.45	8,237.38
Totals.....	26,037.63	56,490.32	47,832.44	44,142.78	57,065.75

Total Length of Sewers.

DISTRICTS.	Total Length Built During Twelve Months Ending December 31, 1940.	Lengths Removed or Abandoned During Twelve Months Ending December 31, 1940.	Additional Length for the Twelve Months Ending December 31, 1940.	
	<i>Linear Feet.</i>	<i>Linear Feet.</i>	<i>Linear Feet.</i>	<i>Miles.</i>
City Proper.....	3,748.16	206.00	3,542.16	0.67
Roxbury.....	3,437.12	11,400.02	7,692.90*	* 1.51
South Boston.....	1,159.60	1,863.00	703.40*	* 0.13
East Boston.....	122.50	None.	122.50	0.02
Charlestown.....	None.	4,228.00	4,228.00*	* 0.80
Brighton.....	1,455.71	.....	1,455.71	0.28
West Roxbury.....	17,412.72	.....	17,412.72	3.30
Dorchester.....	10,705.19	200.28	10,504.91	1.99
Hyde Park.....	19,024.75	459.75	18,565.00	3.51
Totals.....	57,065.75	18,357.05	38,708.70	7.33

Total Length of Sewers.

	Miles
Common sewers and surface drains built previous to January 1, 1940	1,203.07
Common sewers and surface drains built between January 1 and December 31, 1940	7.33
Total length of common sewers and surface drains built to December 31, 1940	1,210.40
Total city intercepting sewers connecting with Metropolitan Sewers to December 31, 1940†	6.81
Total Boston main drainage intercepting sewers to December 31, 1940. †	24.12
Grand total of common and intercepting sewers to December 31, 1940.	1,241.33
Total mileage of streets containing sewerage works to January 1, 1941	678.98

* Decrease in lengths.

† No additional lengths built during 1940.

Catch-Basins in Charge of Sewer Division.

DISTRICTS.	CATCH-BASINS FOR TWELVE MONTHS ENDING DECEMBER 31, 1940.			TOTAL FOR WHOLE CITY IN CHARGE OF SEWER DIVISION.	
	Number Built or Rebuilt.	Number Abandoned or Removed.	Net Increase.	Previous Report to January 1, 1940.	Grand Total to January 1, 1941
City Proper.....	24	17	7	3,619	3,626
Roxbury.....	69	75	6*	3,389	3,383
South Boston.....	25	23	2	1,453	1,155
East Boston.....	1	0	1	1,083	1,084
Charlestown.....	10	22	12*	850	838
Brighton.....	13	0	13	1,941	1,954
West Roxbury.....	50	0	50	3,738	3,788
Dorchester.....	61	9	52	5,213	5,265
Hyde Park.....	62	0	62	763	825
Totals.....	315	146	169	22,049	22,218

* Decrease.

Sewage Statistics for Year 1940, Calf Pasture Pumping Station.

MONTH.	Total Gallons Pumped.	Average Gallons Pumped.	Maximum Gallons Pumped	Minimum Gallons Pumped.	Average Lift. (Feet)
January.....	3,002,564,405	96,856,916	178,136,304	74,805,182	39.2
February.....	3,015,566,593	103,985,055	162,814,971	90,777,437	39.2
March.....	3,506,505,403	113,113,078	206,517,726	82,269,720	39.2
April.....	3,496,728,053	116,557,602	144,512,000	78,642,931	39.2
May.....	3,005,050,660	96,937,117	120,559,189	75,433,184	39.2
June.....	2,477,577,040	82,585,901	110,899,250	68,079,821	39.2
July.....	2,754,932,275	88,868,783	112,926,699	73,430,894	39.2
August.....	2,828,023,984	91,226,580	129,691,085	78,132,758	39.2
September.....	2,681,490,324	89,383,011	114,522,507	69,529,478	39.2
October.....	2,495,233,093	80,491,390	121,453,123	67,239,653	39.2
November.....	2,971,633,655	99,054,455	165,992,490	72,442,422	39.2
December.....	3,171,984,310	102,322,074	147,412,269	79,395,860	39.2
Totals.....	35,407,289,795	116,381,962			
Averages.....	96,741,229	96,781,829			

Running Time of Pumps.—No. 1, 304 hours; No. 2, 576 hours; No. 3, 462 hours, 10 minutes; No. 4, 647 hours, 55 minutes; No. 5, 4,601 hours, 35 minutes; No. 6, 4,551 hours, 10 minutes; No. 7, 8,418 hours, 31 minutes.
 NOTE.—Gallons pumped by oil, 16,605,466,795; gallons pumped by electricity, 18,801,823,000; total, 35,407,289,795.

Total gallons pumped	35,407,289,795
Daily average pumped	96,741,229
Average dynamic head	39.2
Foot gallons	1,387,965,759,964
Foot pounds	11,615,885,445,138

Fuel Record for 1940, Calf Pasture Pumping Station.

MONTH.	Fuel Oil Received, Gallons.	Fuel Oil Used, Gallons.	Amount.
January.....	63,833.59	64,165	\$2,219 09
February.....	67,004.94	64,917	2,329 23
March.....	64,004.06	64,425	2,224 96
April.....	55,006.35	56,540	1,908 68
May.....	52,478.80	57,735	1,824 24
June.....	54,671.38	54,350	1,897 51
July.....	57,021.73	54,115	1,964 44
August.....	52,360.24	55,251	1,695 47
September.....	42,125.44	53,925	1,364 03
October.....	58,469.00	59,864	1,893 22
November.....	57,933.00	59,406	1,875 85
December.....	66,636.00	66,235	2,157 64
Totals.....	691,544.53	710,928	\$23,354 36

MONTH.	Edison Inside Meters, Kilowatt Hours.	Edison Outside Meters, Kilowatt Hours.	Amount.
January.....	248,300	282,340	\$3,535 34
February.....	276,900	316,480	3,766 51
March.....	260,000	340,860	4,551 65
April.....	367,400	415,620	4,937 87
May.....	241,200	265,360	3,452 38
June.....	177,300	199,800	3,222 04
July.....	203,100	197,880	3,293 73
August.....	226,600	258,000	3,564 04
September.....	201,200	230,000	3,275 15
October.....	166,200	172,000	2,971 20
November.....	267,000	292,000	4,223 57
December.....	269,500	241,500	3,637 97
Totals.....	2,904,700	3,211,840	\$44,431 45

Cost of Pumping for 1940, Calf Pasture Pumping Station.

ITEMS.	Cost.	Cost per Million Foot Gallons.
Labor.....	\$68,874 11	\$0.04962
Edison power.....	44,431 45	0.03201
Fuel oil.....	23,354 36	0.01682
Oils and waste.....	1,048 24	0.00076
Rubber valves and packing.....	299 83	0.00022
Miscellaneous renewals and supplies.....	3,240 96	0.00233
Totals.....	\$141,248 95	\$0.10176
Labor at screens.....	\$10,852 23	\$0.00782

Amount of Refuse Removed from Filth Hoist, 1940.

MONTH.	Cheeses.	Weight. (Pounds.)
January.....	123	29,520
February.....	155	37,200
March.....	154	36,960
April.....	140	33,600
May.....	180	43,200
June.....	174	41,760
July.....	168	40,320
August.....	150	36,000
September.....	176	42,240
October.....	190	45,600
November.....	151	36,240
December.....	175	42,000
Totals.....	1,936	464,640

$$232 \frac{640}{2000} \text{ tons.}$$

APPENDIX E.

REPORT OF THE DIVISION ENGINEER OF
THE WATER DIVISION.

BOSTON, January 2, 1941.

To the Commissioner of Public Works.

I respectfully submit the following report of the activities of the Water Division, operations and expenditures for the fiscal year ending December 31, 1940:

ENGINEERING BRANCH.

This branch of the Water Division was engaged in the extension and improvement of the distribution system. The extension of main pipe in the system was performed by contract labor, and the main portion of the relaying work was done by W. P. A. forces under the general supervision of the division's regular engineering and inspection forces. Funds were supplied by the Federal Relief Administration for the labor used by the so-called W. P. A. forces, and a portion of the material used on the work, and the funds of the Water Division, were used to supply cast-iron pipe specials, gates, hydrants, lead, boxes, etc.

A total of 31,774 feet of pipe were either laid or relaid, varying in sizes from 8-inch to 48-inch, inclusive, of which the W. P. A. forces performed 18,671 feet, or 3.54 miles.

	Pipe Laid, Linear Feet.	Pipe Relaid, Linear Feet.
South Boston	228	1,268
City Proper	320	9,675
Dorchester	2,095	117
Roxbury	141	5,917
Brighton	420	0
West Roxbury	4,117	695
Hyde Park	4,998	200
Charlestown	0	1,583
	<hr/> 12,319	<hr/> 19,455

The particular streets in which the above work was performed are shown on the accompanying tables.

DISTRIBUTION BRANCH.

The regular work of the Distribution Branch, consisting of installation of new services and fire pipes, repairing of leaks, caring for complaints, shutting off and letting on water, freeing of stoppages in service pipes, etc., was performed in such a manner and at such periods as to cause a minimum of delay and inconvenience to applicants for water, water takers and the general public.

A large increase in the amount of work performed was occasioned by the laying out of new streets with the resultant regulating of gate boxes, shut-off frames and covers, hydrants, services and the installation of new services on the relaying work by the W. P. A. forces.

The machine shop and plumbing shop were forced to handle all the drilling and connecting of services occasioned by the above-mentioned forces, in addition to the regular work carried on in these shops, such as the assembling and machining of gates, valves and hydrants.

Due to the decreasing of the personnel, and no replacements made in the repair gangs of the Water Division, it has been necessary to engage the services of contractors to assist the department at various times throughout the year in repairing of leaks and laying and relaying of service pipes.

BUSINESS OFFICE.

The campaign inaugurated in 1938 to enforce the payment of outstanding water bills is still in force. Customers in arrears are notified that the flow of water will be reduced, but yet enough water is left on the premises to provide a minimum for health and sanitary requirements. As a result of this campaign the Water Division ended the year 1940 with a surplus of \$418,454.34, this surplus being due mainly to the collection of bills past due.

Main pipe petitions received	34
Domestic service applications	565
Fire pipe applications	18
Special meter tests	281
Hydrant permits issued	24
Repair deposits received	99
Miscellaneous deposits	111

APPROPRIATIONS, EXPENDITURE AND REVENUE.

Amount appropriated . . .	\$1,090,627 00
Amount expended . . .	1,081,048 78
	<hr/>
Balance	\$9,578 22

Amount of money collected during the year . .	\$4,781,638 74
Amount of expenditures from all sources . .	\$4,362,312 65

The Metropolitan assessment for 1940 amounted to \$3,110,208.64, an increase of \$431,043.32 over the assessment for 1930.

Total amount of water billed for 1940 . . .	\$4,653,951 06
Total amount collected for 1940 bills . . .	\$3,592,507 32
Total abatements for 1940 water	\$33,556 40
Total amount collected in 1940 on bills rendered prior to 1940	\$1,207,269 78

This department contacts the water consumers very frequently throughout the year, and the conduct of the office has been such that I believe a spirit of good will between the customers and the employees has been brought about which is beneficial to the consumer and the city.

Respectfully submitted,

DANIEL M. SULLIVAN,
Division Engineer

**Statement of Each Year's Water Rates, 1912 to 1940, Inclusive,
With Outstanding Balances As of December 31, 1940.**

ACCOUNT OF YEAR.	Amount Assessed.	Amount Abated.	Collections and Credits.*	Amount Outstanding.
1912.....	\$3,001,771 87	\$58,369 39	\$2,943,402 48	
1913.....	3,004,331 52	50,147 90	2,954,183 62	
1914.....	3,034,885 83	64,663 01	2,970,232 82	
1915.....	2,960,797 45	57,782 09	2,903,015 36	
1916.....	3,130,590 53	67,771 69	3,062,818 84	
1917.....	3,120,878 86	77,353 75	3,043,525 11	
1918.....	3,359,714 95	162,415 52	3,197,299 43	
1919.....	3,210,147 91	95,812 76	3,114,335 15	
1920.....	3,503,677 88	123,509 90	3,380,167 98	
1921.....	3,615,663 51	90,946 23	3,524,717 28	
1922.....	3,612,715 51	90,453 27	3,522,262 24	
1923.....	3,817,642 72	77,449 02	3,740,193 70	
1924.....	3,832,531 26	43,678 41	3,783,413 14	\$5,439 71
1925.....	3,875,434 21	39,139 26	3,829,302 70	6,992 25
1926.....	3,910,119 54	44,694 94	3,858,475 64	6,948 96
1927.....	3,979,153 63	44,181 30	3,918,655 40	16,316 93
1928.....	4,418,039 84	37,831 69	4,371,870 66	8,337 49
1929.....	5,018,524 39	45,149 68	4,959,856 34	13,518 37
1930.....	4,864,180 27	44,484 10	4,801,598 18	18,097 99
1931.....	4,749,546 18	45,882 56	4,676,726 27	26,937 35
1932.....	4,611,461 41	38,506 99	4,538,346 39	34,608 03
1933.....	4,572,539 96	36,382 79	4,476,707 48	59,449 69
1934.....	4,703,863 07	51,853 25	4,577,953 65	68,056 17
1935.....	4,630,717 54	49,887 02	4,504,804 55	76,025 97
1936.....	4,671,732 90	37,388 92	4,584,735 35	49,608 63
1937.....	4,719,332 74	31,926 04	4,686,914 53	492 17
1938.....	4,719,959 75	43,407 22	4,669,537 39	7,015 14
1939.....	4,571,646 12	50,962 82	4,389,539 64	151,143 66
1940.....	4,653,951 06	33,556 40	3,592,507 32	1,027,887 34
1937 and 1938 added to 1939 tax.....	606,767 13	25,368 78	463,280 47	118,117 88
Total outstanding water rates December 31, 1940.....				\$1,694,993 73

* Credits have been made since August, 1937, of Tax Sales Receipts, to water accounts for every year from 1929 to 1940, inclusive, reducing outstanding balances for these years.

METER BRANCH, WATER DIVISION.

Table No. 1. Statement of Work Done During the Year 1940.

MAKE.	Applied.	Discontinued.	METERS CHANGED.		Tested.	Repaired in Service.	Repaired in Shop.	Resets.
			Out.	In.				
Hersey disc.....	247	153	3,353	4,790	5,548	1,523	3,511	420
Worth disc.....	5	13	671	236	713	176	114	13
Watch dog.....	93	50	2,282	1,821	1,944	413	922	165
King.....	9	12	572	210	616	100	33	15
Federal.....			39		48	15	6	
American.....		1	73	2	111	11	3	
Lambert.....			14		19	3	3	
Crown.....		2	9		12	10	2	1
Trident.....	1		13		18	25	14	
Hersey rotary.....			21	4	33	33	9	
Arctic.....	1		5		9	16	7	
Nash.....			14	1	21	1		
Hersey compound.....	67		4	10	2	27	1	
Keystone.....			6		10		2	
Hersey detector.....	3	2		2		110	2	
Totals.....	426	233	7,076	7,076	9,104	2,463	4,629	614

Table No. 2. Meters in Service December 31, 1940.

MAKE.	DIAMETER IN INCHES.											Totals.
	$\frac{5}{8}$	$\frac{3}{4}$	1	$1\frac{1}{2}$	2	3	4	6	8	10	12	
Hersey disc.....	55,152	3,787	1,924	995	443	164	131	30	1	.....	.....	62,627
Worth disc.....	5,934	24	28	27	47	13	.....	.....	.....	.....	.....	6,073
Watch dog.....	21,151	1,021	1,035	720	442	392	89	.....	.....	.....	.....	24,850
King.....	3,303	223	6	28	42	.....	.....	.....	.....	.....	.....	3,602
Federal.....	549	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	549
American.....	551	82	20	.....	.....	.....	.....	.....	.....	.....	.....	653
Lambert.....	197	68	45	.....	12	.....	2	.....	.....	.....	.....	324
Crown.....	174	301	33	56	71	23	.....	6	.....	.....	.....	664
Trident.....	110	.....	6	1	11	22	13	1	1	2	.....	167
Hersey compound.....	.....	.....	.....	.....	.....	45	32	18	.....	.....	.....	95
Hersey detector.....	.....	.....	.....	.....	.....	4	51	65	32	25	6	183
Arctic.....	1	.....	.....	23	20	19	10	.....	.....	.....	.....	73
Empire.....	16	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	16
Nash.....	49	231	14	1	6	.....	.....	.....	.....	.....	.....	301
Keystone.....	148	141	.....	6	3	.....	.....	.....	.....	.....	.....	298
Hersey rotary.....	324	223	114	95	176	52	21	13	.....	.....	.....	1,018
Totals.....	87,659	6,101	3,225	1,952	1,273	734	349	133	34	27	6	101,493

Table No. 3. Meters in Shop December 31, 1940.

MAKE.	DIAMETER IN INCHES.								Totals.
	$\frac{1}{8}$	$\frac{1}{4}$	1	1½	2	3	4	6	
Hersey disc.....	719	274	170	14	16	4	5	....	1,202
Hersey detector.....	.....	.....	.....	.....	.....	1	1	....	2
Hersey compound.....	.....	.....	.....	.....	.....	2	2	....	4
Hersey rotary.....	.....	1	.....	.....	.....	.....	.....	1	2
Watch dog.....	220	56	60	5	4	3	2	....	350
Worth disc.....	1	.....	.....	.....	1	9	.....	.....	11
Arctic.....	.....	.....	.....	4	1	1	1	....	7
Trident.....	.....	.....	.....	.....	.....	10	.....	2	12
King.....	.....	.....	3	3	1	.....	.....	.....	7
Totals.....	940	331	233	26	23	30	13	1	1,597

Table No. 4. Meters Purchased in Year 1940.

MAKE.	DIAMETER IN INCHES.								Totals
	$\frac{1}{8}$	$\frac{1}{4}$	1	1½	2	3	4	6	
Hersey disc.....	1,000	50	50	40	15	.....	.....	.....	1,155
Hersey compound.....	.....	.....	.....	.....	.....	48	22	10	80
Hersey detector.....	.....	.....	.....	.....	.....	.....	1	.....	1
Totals.....	1,000	50	50	40	15	48	23	10	1,236

Table No. 5. Meters Reset.

MAKE.	DIAMETER IN INCHES.							Totals.	Occupied.	Connection Pieces.
	$\frac{1}{8}$	$\frac{1}{4}$	1	1½	2	3	4			
Hersey disc.....	367	30	15	2	5	.....	1	420	131	289
Watch dog.....	143	5	10	6	.....	1	.....	165	56	109
King.....	14	.....	1	.....	.....	.....	.....	15	2	13
Worth disc.....	13	.....	.....	.....	.....	.....	.....	13	4	9
Crown.....	.....	1	.....	.....	.....	.....	.....	1	.....	1
Totals.....	537	36	26	8	5	1	1	614	193	421

Table No. 6. Meters Changed in 1940.

MAKE.	METERS OUT. DIAMETER IN INCHES.								Totals.
	$\frac{5}{8}$	$\frac{3}{4}$	1	$1\frac{1}{2}$	2	3	4	6	
Hersey disc.....	2,897	243	132	46	19	9	7	.....	3,353
Worth disc.....	668	.....	1	.....	2	.....	.....	.....	671
Watch dog.....	1,986	102	110	53	17	10	4	.....	2,282
King.....	517	24	22	4	5	.....	.....	.....	572
Federal.....	39	.....	.....	.....	.....	.....	.....	.....	39
American.....	42	31	.....	.....	.....	.....	.....	.....	73
Nash.....	10	2	2	.....	.....	.....	.....	.....	14
Trident.....	8	.....	.....	.....	.....	2	3	.....	13
Crown.....	3	2	2	1	1	.....	.....	.....	9
Lambert.....	8	3	3	.....	.....	.....	.....	.....	14
Keystone.....	4	2	.....	.....	.....	.....	.....	.....	6
Hersey rotary.....	1	5	8	2	3	.....	.....	2	21
Arctic.....	.....	.....	.....	4	1	.....	.....	.....	5
Hersey compound.....	.....	.....	.....	.....	.....	.....	2	2	4
Totals.....	6,183	414	280	110	48	21	16	4	7,076

Table No. 6. Meters Changed in 1940.— Concluded.

MAKE.	METERS IN. DIAMETER IN INCHES.								Totals.
	$\frac{5}{8}$	$\frac{3}{4}$	1	$1\frac{1}{2}$	2	3	4	6	
Hersey disc.....	4,167	317	198	65	23	12	6	2	4,790
Worth disc.....	234	.....	.....	1	.....	1	.....	.....	236
Watch dog.....	1,580	82	81	50	19	8	1	.....	1,821
King.....	175	15	12	3	5	.....	.....	.....	210
Federal.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
American.....	.....	2	.....	.....	.....	.....	.....	.....	2
Nash.....	.....	1	.....	.....	.....	.....	.....	.....	1
Trident.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Crown.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Lambert.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Keystone.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Hersey rotary.....	.....	3	.....	.....	1	.....	.....	.....	4
Arctic.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Detector.....	.....	.....	.....	.....	.....	.....	2	.....	2
Hersey compound.....	.....	.....	.....	.....	.....	2	8	.....	10
Totals.....	6,156	420	291	119	48	23	17	2	7,076

Table No. 7. Causes for Meter Changes.

MAKE.	Test.	Do not Register.	No Force.	Enlarged.	Spindle Leak.	Coupling Leak.	Frost.	Set Backwards.	Defaced.	Totals.
Hersey disc.....	212	2,114	52	3	156	194	579	9	34	3,353
Worth disc.....	9	333	19	.....	33	68	118	3	88	671
Watch dog.....	18	1,746	9	4	133	53	306	2	11	2,282
King.....	4	262	4	.....	67	11	211	.....	13	572
Federal.....	3	14	3	1	7	6	4	.....	1	39
American.....	1	38	2	.....	9	5	11	.....	7	73
Nash.....	.....	7	.....	.....	.....	3	1	.....	3	14
Trident.....	2	4	.....	1	.....	.....	1	.....	5	13
Crown.....	.....	6	1	.....	.....	.....	.....	.....	2	9
Lambert.....	.....	7	2	.....	.....	4	.....	.....	1	14
Keystone.....	.....	5	1	.....	.....	.....	.....	.....	.....	6
Hersey rotary.....	6	11	1	.....	.....	3	.....	.....	.....	21
Arctic.....	2	2	.....	.....	.....	.....	1	.....	.....	5
Hersey compound.....	.....	4	.....	.....	.....	.....	.....	.....	.....	4
Totals.....	257	4,553	94	9	405	347	1,232	14	165	7,076

Table No. 8. Meters Applied in 1940.

MAKE.	DIAMETER IN INCHES.									Totals.
	$\frac{5}{8}$	$\frac{3}{4}$	1	$1\frac{1}{2}$	2	3	4	6	12	
Hersey disc.....	204	6	11	10	7	4	4	1	.....	247
Watch dog.....	64	2	5	9	9	3	1	.....	.....	93
Worth disc.....	4	.....	.....	.....	1	.....	.....	.....	.....	5
King.....	8	1	.....	.....	.....	.....	.....	.....	.....	9
Arctic.....	.....	.....	.....	.....	1	.....	.....	.....	.....	1
Trident.....	.....	.....	.....	.....	.....	1	.....	.....	.....	1
Hersey compound.....	.....	.....	.....	.....	.....	44	17	6	.....	67
Hersey detector.....	.....	.....	.....	.....	.....	.....	2	.....	1	3
Totals.....	280	9	16	19	18	52	24	7	1	426

Applied on old service pipes 16
 Applied on new service pipes 410

Totals 426

Table No. 9. Meters Discontinued in Year 1940.

MAKE.	DIAMETER IN INCHES.									Totals.	Discontinued.	Vacant.	Connection Pieces.	Enlarged.
	$\frac{3}{8}$	$\frac{1}{2}$	1	1½	2	3	4	6	8					
Hersey disc.....	290	25	18	5	2	5	3	1	....	349	153	98	94	4
Worth disc.....	49	....	....	....	....	....	....	....	....	49	13	8	28	....
Watch dog.....	110	7	13	12	4	5	....	....	....	151	50	52	46	3
King.....	43	2	....	....	....	....	....	....	....	45	12	7	26	....
Hersey detector.....	....	....	....	....	....	....	2	....	3	5	2	3	....	....
Hersey rotary.....	1	....	1	....	....	....	....	....	....	2	....	....	2	....
Lambert.....	....	....	....	1	....	....	....	....	....	1	....	1	....	....
American.....	2	2	....	....	....	....	....	....	....	4	1	1	2	....
Federal.....	4	....	....	....	....	....	....	....	....	4	....	1	3	....
Keystone.....	....	1	....	....	....	....	....	....	....	1	....	1	....	....
Crown.....	1	....	....	2	....	....	....	....	....	3	2	....	1	....
Totals.....	500	37	33	19	6	10	5	1	3	614	233	172	202	7

Table No. 10. Meters Repaired in Service.

MAKE.	Defaced and Clock Broken.	Spindle Leaks.	Coupling Leaks.	Broken Counter Boxes.	Special Seals.	Examinations.	Totals.
Hersey disc.....	566	408	387	62	51	49	1,523
Worth disc.....	37	9	92	17	4	17	176
Watch dog.....	51	217	79	9	33	24	413
King.....	2	66	14	2	5	11	100
Federal.....		5	4		1	5	15
American.....			6		2	3	11
Lambert.....			2	1			3
Crown.....	3		5			2	10
Trident.....	5	8		2	7	3	25
Hersey rotary.....	30		3				33
Nash.....					1		1
Arctic.....	3	4		4	3	2	16
Hersey detector.....	74			9		27	110
Hersey compound.....	11			2		14	27
Totals.....	782	717	592	108	107	157	2,463

Table No. 1.

Showing Length of Water Pipes and Connections Owned and Operated by Public Works Department, Water Division, Water Service, and Number of Valves in Same, December 31, 1940.

DIAMETER OF PIPES IN INCHES.																	
	48	42	40	36	30	24	20	16	14	12	10	8	6	4	3	2	Totals.
Length owned and operated																	
December 31, 1939.....	47,142	16,191	9,599	38,691	84,296	89,455	108,000	365,455	285	1,827,961	451,125	1,176,437	987,836	64,121	11,225	6,509	5,284,328
Gate valves in same.....	26	4	5	29	55	81	76	755	14	5,167	1,576	4,391	3,226	546	19	16	13,986
Air valves in same.....	60	5	10	35	113	84	53	101	64	1	40	203	143	69	16	2	338
Blow-offs in same.....	11	5	6	11	33	37	52	76	76	162	24	11,797	557	143	16	2	866
Length laid and relaid during 1940.....	8,453						2,070	1,627		7,246	24	11,797	557				31,771
Gate valves in same.....				6			2	9		21	1	45	4	12			100
Air valves in same.....																8	8
Blow-offs in same.....																4	14
Length abandoned during 1940.....				8,453	8,453		2,070	1,435		2,035		1,607	11,195	200			35,448
Gate valves in same.....				4	5	6	4	6		7		7	40	8			87
Air valves in same.....																	
Blow-offs in same.....																	
Length owned and operated																	
December 31, 1940, including																	
high pressure fire service.....	55,595	16,191	9,599	30,238	75,843	89,455	108,000	365,647	285	1,833,172	451,149	1,186,627	977,198	63,921	11,225	6,509	5,280,654
Gate valves in same.....	26	4	5	31	50	75	74	758	14	5,181	1,577	4,429	3,190	550	19	16	13,999
Air valves in same.....	60	5	10	35	113	84	53	101	64	1	40	203	141	66	11	14	346
Blow-offs in same.....	11	5	6	11	33	37	52	76	76	166	24	203	141	66	11	6	864
High pressure fire service.....							20,140	46,953		31,756							98,849

1,000,123 miles in system, including high pressure fire service.
18,721 miles in high pressure fire service.

1940 — Financial Transactions — Water Service.

Cash balance from 1939		\$2,516 93
Receipts:		
Water rates and services	\$4,763,477 26	
Tax titles — water	18,161 48	
		<u>4,781,638 74</u>
		\$4,784,155 67
Expenditures from revenue:		
Refunded water rates	\$524 10	
Collecting department	100,868 79	
Auditing department	200 00	
		<u>101,592 89</u>
		\$4,682,562 78
Expenditures from revenue:		
Current expenses and extension	\$1,081,048 78	
Metropolitan assessment	3,110,208 64	
		<u>4,191,257 42</u>
		\$491,305 36
Expenditures on debt account:		
Boston water debt	\$33,499 84	
Hyde Park debt	16,000 00	
Interest on loans	19,962 50	
		<u>69,462 34</u>
		\$421,843 02
Credit adjustment State auditing	\$108 32	
		<u>108 32</u>
		\$421,951 34
Cash forwarded to 1941	\$3,497 00	
		<u>3,497 00</u>
Balance of revenue over expenditures		<u>\$418,454 34</u>
Loan Account:		
Balance outstanding January 1, 1940,	\$674,000 00	
Paid during 1940:		
Boston water debt,	\$32,000 00	
Hyde Park water	16,000 00	
P. W. A. loans No.		
1123, No. 4214		
and No. 7223	41,000 00	
		<u>89,000 00</u>
Balance outstanding December 31, 1940		<u>\$585,000 00</u>
Construction Account:		
Extension of mains (from revenue)		<u>\$190,039 47</u>
Cost of construction December 31,		
1940	\$24,425,618 63	
Cost of construction December 31,		
1939	24,235,579 16	
		<u>\$190,039 47</u>
Increase in plant cost during year 1940		<u>\$190,039 47</u>

Cost of existing works December 31, 1940:

Pipe, yards and buildings	*\$84,332 16	
Engineering expenses	57,873 58	
Distribution system	†24,108,412 89	
Hyde Park water works	175,000 00	
		\$24,425,618 63
High pressure fire system		‡2,293,316 75
Total cost		<u>\$26,718,935 38</u>

* Includes \$155,023.89 expended on high pressure fire system in 1925, 1926, 1931, 1932, 1933.

† \$10,500 deducted on account of abolishment of Charlestown Water Yard.

‡ \$33,850.96 deducted from cost of high pressure fire system on account of abandonment of Pumping Station, Battery street.

Shutting Off and Turning On Water in 1940.

Number of shut-offs for repairs	4,130
Number of premises turned on after repairs	3,995
Number of shut-offs for vacancy	1,005
Number of premises turned on for occupancy	946
Number of premises shut off for nonpayment of water rates	19,852
Number of premises turned on again after being shut off for nonpayment	2,580
Number of premises shut off on account of waste	36
Number of premises turned on again after being shut off for waste	16
Number of new service pipes turned on for the first time	295
Total number of times water was shut off or turned on	<u>32,855</u>

Table No. II.

HIGH PRESSURE FIRE SERVICE.

*Showing Length of Water Pipes, Connections, Hydrants and Valves in Same,
December 31, 1940.*

	20-Inch.	16-Inch.	12-Inch.	8-Inch.	6-Inch.	Totals.
Length owned and operated December 31, 1939.....	20,140	46,953	31,756	—	—	98,849
Gates in same.....	—	201	144	502	—	847
Blow-offs in same.....	—	—	—	—	6	6
Length laid in 1940.....	—	—	—	—	—	000
Gate valves in same.....	—	—	—	—	—	000
Length owned and operated December 31, 1940.....	20,140	46,953	31,756	—	—	98,849
Gate valves in same.....	—	201	144	502	—	847
Blow-offs in same.....	—	—	—	—	6	6
High pressure fire hydrants.....	—	—	—	—	—	505

18.72 miles of mains in system.

Table No. III.

Total Number of Hydrants in System, December 31, 1940.

[illegible]

WATERWORKS STATISTICS, CITY OF BOSTON.

FOR THE FISCAL YEAR ENDING DECEMBER 31, 1940.

DISTRIBUTION.

Mains.

Kind of pipe: Cast iron, wrought iron, steel.

Size: 2-inch to 48-inch.

Extended, miles, 2.33.

Size enlarged, miles, 2.66.

Total miles now in use, 1,000.123. 2-inch to 48-inch, inclusive, high pressure fire service.

Public hydrants added, 24.

Public hydrants now in use, 11,346.

Stop gates added, 13.

Stop gates now in use, 15,999.

Stop gates smaller than 4-inch, 35.

Number of blow-offs, 864.

Range of pressure on mains, 30 to 90 pounds.

Service.

Kind of pipe and size: Lead and lead lined, $\frac{1}{2}$ -inch to 2-inch; cast iron, 2-inch to 16-inch; wrought iron and cement lined, $\frac{3}{4}$ -inch to 2-inch; brass and copper, $\frac{5}{8}$ -inch to 2 $\frac{1}{2}$ -inch.

Cost of Abandoned Main Pipe, 1940.

STREET.	Location.	District.	Size (Inches.)	Feet.	Cost of Depart- ment Materials, Etc.	Cost of Labor.	Cost of Inspection.	Total Cost.	Remarks.
Vale street	Between Dorchester street and Columbia road.	South Boston.	16	150	\$513 69	.....	\$22 44	\$536 13	W. P. A. housing.
Collage street	Between Bunker Hill and Mofford streets.	Charlestown.	8	620	.....	.....	.....	.....	Street abandoned, W. P. A. housing.
Newman street	Between Dorchester street and Columbia road.	South Boston.	8	770	460 65	.....	14 72	475 37	Street abandoned, W. P. A. housing.
East Ninth street	Between Mercer street and Columbia road.	South Boston.	8	100 (375)	15 46	.....	3 68	19 14	Street abandoned, W. P. A. housing.
Schoolhouse court	From Charles street	Charlestown.	6	156	7 05	\$36 75	.....	43 80	Department.
Dunham street	Between East Ninth and Old Harbor streets.	South Boston.	6	365	3 08	.....	1 84	4 92	Street abandoned, W. P. A. housing.
Champlain street	Between Columbia road and Old Colony avenue.	South Boston.	6	700	4 87	.....	7 36	12 23	Street abandoned, W. P. A. housing.
Dillon street	Between Lenox and Sawyer streets.	Roxbury.	6	250	.....	.....	.....	.....	Street abandoned, W. P. A. housing.
Sawyer street	Between Lenox street and Shawmut avenue.	Roxbury.	6	900	.....	.....	.....	.....	Street abandoned, W. P. A. housing.
Parnell street	Between Lenox and Sawyer streets.	Roxbury.	6	270	.....	.....	.....	.....	Street abandoned, W. P. A. housing.
Chauncey place	Between Fremont place and Dedmar street.	Charlestown.	6	220	.....	.....	.....	.....	Street abandoned, W. P. A. housing.

Cost of Abandoned Main Pipe. — Concluded.

STREET.	Location.	District.	Size. (Inches).	Feet.	Cost of Depart- ment Materials, Etc.	Cost of Labor.	Cost of Inspe- tion.	Total Cost.	Remarks.
Dupont street	From Decatur street	Charlestown.	6	200	.....	.....	.....	.....	Street abandoned, W. P. A. housing.
Fremont place	Between Medford street and Clanney place.	Charlestown.	6	190	.....	.....	.....	.....	Street abandoned, W. P. A. housing.
Princeton street	Between Lexington and Tufts streets.	Charlestown.	6	480	.....	.....	.....	.....	Street abandoned, W. P. A. housing.
Marion street	Between Princeton and Bunker Hill streets.	Charlestown.	6	380	.....	.....	.....	.....	Street abandoned, W. P. A. housing.
Sprague street	Between Princeton and Bunker Hill streets.	Charlestown.	6	366	.....	.....	.....	.....	Street abandoned, W. P. A. housing.
Stone street	Between Medford and Princeton streets.	Charlestown.	6	240	.....	.....	.....	.....	Street abandoned, W. P. A. housing.
Everett street	Between Medford and Bunker Hill streets.	Charlestown.	6	620	.....	.....	.....	.....	Street abandoned, W. P. A. housing.
Bainbridge street	Between Moulton and De- catur streets.	Charlestown.	6	200	.....	.....	.....	.....	Street abandoned, W. P. A. housing.
			$\left\{ \begin{array}{l} 16 \\ 8 \\ 6 \end{array} \right.$	$\left\{ \begin{array}{l} 150 \\ 1,490 \\ 5,900 \end{array} \right.$	.....	.....	.....	.....
	Totals abandoned	.....	.....	7,540	\$1,004 80	\$36 75	\$50 04	\$1,091 59	

Cost of Replacement of Main Pipe, 1940.

STREET.	Location.	District.	Size, (Inches.)	Feet.	Cost of Depart- ment Materials, Etc.*	Cost of Labor.	Cost of Inspection.	Total Cost.	Original Size, (Inches.)	Feet.	Remarks.
Tremont street	Between Prentiss and Kendall streets.	Roxbury.	48*	2,818	\$56,879.34	\$699.00	\$647.68	\$58,226.02	{ 46 30	2,818 2,818	W. P. A. cost 48" pipe not included U. S. Grant.
Tremont street	Between Kendall and Huntington streets.	City Proper.	48*	5,635	7,246.88	1,823.25	1.44	10,214.61	{ 36 30	5,635 5,635	
Huntington avenue	Between Massachussetts avenue and Norway street.	City Proper.	20	510					20	510	
Huntington avenue	Between West Newton and Garrison streets.	City Proper.	20	285					20	285	Transit material sold to Transit Department.
Huntington avenue	Between Massachussetts avenue and Opera place.	City Proper.	20	1,275					20	1,275	
Huntington avenue	Between Massachussetts avenue and Opera place.	City Proper.	16	1,285					16	1,285	
Huntington avenue	Between Massachussetts avenue and Gainsborough street.	City Proper.	12	685	†15,272.73	84.00	1,817.92	17,174.65	12	685	
Mercer street	Between Columbia road and East Eighth street.	South Boston.	{ 16 12 419	114 419	3,613.02	6.00	207.68	3,826.70	{ 12 6 419	114 419	W. P. A.
St. Alphonsus street	Between Smith street and Longwood avenue.	Roxbury.	12	531	2,198.21	48.00	201.77	2,447.98	6	531	W. P. A.
Longwood avenue	Between St. Alphonsus and Parker streets.	Roxbury.	12	1,236	4,210.91		269.46	4,480.37	12	1,236	W. P. A.
Monument street	Between Bunker Hill and Medford streets.	Charlestown.	12	624	3,628.16	21.00	199.57	3,848.73	6	624	W. P. A.
Corey street	Between Medford and Moulton streets.	Charlestown.	12	744	2,650.00	66.00	126.87	2,842.87	6	744	W. P. A.
Cottage avenue	Between Howitt and Bijel roads.	West Roxbury.	12	695	2,366.88	663.53	62.56	3,092.97	6	695	Jacobs†

* Steel.

† Less materials paid for by Transit Department.

‡ Contractor.

Cost of Replacement of Main Pipe, 1940.—Concluded.

Street.	Location.	District.	Size, (Inches.)	Feet.	Cost of Depart- ment Materials, Etc.*	Cost of Labor.	Cost of Inspection.	Total Cost.	Original Size, (Inches.)	Feet.	Remarks.
Moulton street	Between Vine street and dead end.	Charlestown.	8	215	\$582 54	\$60 00	\$36 99	\$709 53	6	215	W. P. A.
Smith street	Between Parker and St. Alphonse streets.	Roxbury.	8	1,226	3,316 12	49 50	328 14	3,693 76	6	1,226	W. P. A.
Conant street	At St. Alphonse street	Roxbury.	{ 8 43 6 25 }		391 03		22 43	413 46	6	68	W. P. A.
Parker street	Between Station street and Longwood avenue.	Roxbury.	{ 8 24 6 14 }		129 24		7 36	136 60	6	38	W. P. A.
East Ninth street	Between Dorchester and Mercer streets.	South Boston.	8	735	1,634 68		143 44	1,778 12	6	735	W. P. A.
Beaver street	Between Chestnut and Brachburn streets.	Hyde Park.	8	200	374 42	230 48	14 72	619 62	4	200	Jacobs.
Daly street	Between Rosemont and King streets.	Dorchester.	8	117	266 17	283 14	14 72	564 03	8	117	Appel & O'Toole.†
	Totals		{ 48 8,453 20 2,070 16 1,399 12 4,934 8 2,560 6 39 }						{ 36 8,453 30 8,453 20 2,070 16 1,285 12 2,035 8 117 6 5,295 4 200 }		
	Replacement totals			19,455	\$104,760 33	\$4,033 90	\$5,275 79	\$114,070 02		27,908	
					† 15,272 73			† 15,272 73			
					\$89,487 60	\$4,033 90	\$5,275 79	\$98,797 79			

* Steel.

† Less materials paid for by Transit Department.

‡ Contractor.

Cost of Extension of Main Pipe.

STREET.	Location.	District.	Size. (Inches.)	Feet.	Cost of Department, Materials, Etc.	Cost of Labor, (Contract.)	Cost of Inspection.	Total Cost.	Remarks, (Contracts.)
Cottage road	Between Birch road and dead end.	West Roxbury.	6	198	\$334 19	\$641 15	\$22 08	\$997 42	Driscoll.
Van Ness street	Between Jersey street and dead end.	City.	6	329	395 46	498 89	22 08	916 43	Driscoll.
Countryside road	Between Morton street and dead end.	Dorchester.	8	117	192 70	676 58	66 24	935 52	Appel & O'Toole.
Maryknoll road	Between Morton and Verndale streets.	Dorchester.	8	205	404 63	402 52	47 81	854 99	Jacobs.
Eastwood Circuit	Between Prospect street and Louie avenue.	West Roxbury.	8	974	2,067 31	988 22	55 20	3,110 73	Jacobs.
Summer street	At West street	Hyde Park.	8	20	28 56	16 38	3 68	48 62	Jacobs.
Bireldcroft road	Between Blake and Pinewood streets.	Hyde Park.	8	682	1,264 16	1,229 32	73 60	2,567 08	Jacobs.
Oldfield road	Between Columbia road and Normandy street.	Dorchester.	8	80	110 76	263 74	3 68	378 18	Appel & O'Toole.
Morey road	From Shrewsbury road	West Roxbury.	8	85	206 01	83 43	7 36	297 30	Jacobs.
Clare avenue	Between Madison street and Richards avenue.	Hyde Park.	8	146	267 94	154 00	7 36	369 30	Jacobs.
Boston-Providence State Highway.	Near Spring street	West Roxbury.	8	301	589 54	321 74	14 72	926 00	Jacobs.
Shrewsbury road	Between Vincent and Morey roads.	West Roxbury.	8	472	890 54	694 52	14 72	1,599 78	Jacobs.

Cost of Extension of Main Pipe. — Continued.

STREET.	Location.	District.	Size. (Inches.)	Feet.	Cost of Depart- ment Materials, Etc.	Cost of Labor, (Contract.)	Cost of Inspe- ction.	Total Cost.	Remarks, (Contracts.)
Barna road	Between Range road and Galty avenue.	Dorchester.	8	114	\$257 88	\$113 35	\$7 36	\$378 59	Baker.
John Alden road	Between La Grange street and Cottage avenue.	West Roxbury.	8	403	859 98	367 77	25 76	1,253 51	Jacobs.
Rita road	Between Gallivan Boulevard and St. Brendan road.	Dorchester.	8	160	244 86	158 40	11 04	414 30	Baker.
Vining street	Between Fenwood road and Huntington avenue.	Roxbury.	8	141	339 95	161 75	22 08	523 78	Appel & O'Toole.
Braeburn road	Between Beaver street and Myopia road.	Hyde Park.	8	618	1,319 52	748 89	26 80	2,095 21	Jacobs.
Myopia road	Between Austin and West streets.	Hyde Park.	8	608	1,196 57	712 59	44 16	1,953 72	Jacobs.
Beaver street	Between Townsend and Brae- burn streets.	Hyde Park.	8	176	431 48	258 72	14 72	704 92	Jacobs.
Birchcroft street	At Pinewood street	Hyde Park.	8	16	116 54	.....	14 72	131 26	Jacobs.
Crown street	Between Birchcroft road and Trelawney street.	Hyde Park.	8	206	402 22	387 37	22 08	811 67	Baker.
Pinewood street	Between Birchcroft road and Oakwood street.	Hyde Park.	8	325	658 69	773 42	36 80	1,468 91	Jacobs.
Whitcomb avenue	Between Malcolm street and Arborview road.	West Roxbury.	8	180	448 41	252 94	44 16	745 51	Jacobs.
Herbertson road	Between Northbourne and El- dridge roads.	West Roxbury.	8	127	286 53	126 53	22 08	435 14	Jacobs.

Tobin road.....	Between Kerna road and dead end.	West Roxbury.	8	52	150 58	45 52	7 36	203 46	Jacobs.
Hillock street.....	Between Cornell and Beryl streets.	West Roxbury.	10 24 113	8	673 76	282 48	15 98	972 24	Baker.
Soldiers' Field road.....	Between Telford and Everett streets.	Brighton.	8	356	940 89	560 89	80 96	1,582 74	Driscoll.
Melba way.....	Between Safford road and Tacoma street.	Hyde Park.	8	448	935 95	435 36	125 12	1,516 43	Jacobs.
Perle street.....	Between Washington street and dead end.	Brighton.	8	64	103 59	86 83	22 08	212 50	Driscoll.
Wingate road.....	Between Neponset Valley Parkway and dead end.	Hyde Park.	8	318	704 38	303 63	44 16	1,052 17	Jacobs.
Rita road.....	Between Gallivan Boulevard and St. Brendan street.	Dorchester.	8	285	532 54	320 17	73 60	926 31	Driscoll.
Rangeley street.....	Between Milton street and Gallivan Boulevard.	Dorchester.	8	320	571 22	314 17	56 88	942 27	Driscoll.
Oakmere street.....	Between Hamilton street and dead end.	West Roxbury.	8	287	493 68	308 02	95 68	897 38	Jacobs.
Myles Standish road.....	Between Cottage avenue and La Grange street.	West Roxbury.	8	477	1,010 12	442 86	51 52	1,504 50	Jacobs.
Neillan Crescent.....	From Pond street.....	West Roxbury.	8	203	597 42	188 88	22 08	808 38	Jacobs.
Barna road.....	Between Range road and Gally avenue.	Dorchester.	8	248	513 53	336 85	41 16	894 54	Driscoll.
Gwinnett street.....	Between West and Marston streets.	Hyde Park.	12	552	1,948 27	639 05	29 44	2,616 76	Jacobs.
West street.....	Between Austin street and railroad bridge.	Hyde Park.	12	411	1,197 35	463 60	51 52	1,711 87	Jacobs.
Range road.....	Between Barna road and Dorchester avenue.	Dorchester.	12	440	1,466 23	544 80	51 52	2,062 55	Baker.

Cost of Extension of Main Pipe. — Concluded.

STREET.	Location.	District.	Size. (Inches.)	Feet.	Cost of Depart- ment Materials, Etc.	Cost of Labor, (Contract.)	Cost of Inspec- tion.	Total Cost.	Remarks, (Contracts.)
Tobin road.....	Between Washington street and Kerna road.	West Roxbury.	12	308	\$1,021 58	\$590 11	\$36 80	\$1,648 49	Jacobs.
Kerna road.....	Between Tobin road and Centre street.	West Roxbury.	12	385	1,331 90	681 91	110 40	2,124 21	Jacobs.
Range road.....	Between Barna road and Mer- cier avenue.	Dorchester.	12	216	749 76	292 43	36 80	1,078 99	Driscoll.
Columbia road.....	Between Old Colony avenue and Old Harbor street.	South Boston.	16	228	1,681 60	.....	69 92	1,751 52	W. P. A.
	Totals.....		{ 6 8 10 12 16	{ 518 9,237 24 2,312 228					
	Total extension.....		.....	12,319	\$29,879 20	\$16,889 68	\$1,656 30	\$48,425 18	

APPENDIX F.

REPORT OF BOSTON AND CAMBRIDGE
BRIDGE COMMISSION.

BOSTON, January 2, 1941.

To the Honorable the Mayor.

SIR,—As Commissioner for the City of Boston, I respectfully submit herewith the annual report of the Boston and Cambridge Bridge Commission for the year ending December 31, 1940.

The Commission is composed of two members, one appointed by the Mayor of the City of Boston and the other by the Mayor of the City of Cambridge, under provisions of chapter 467, Acts of 1898.

The Commission has charge of the maintenance of the following named bridges between Boston and Cambridge: Cottage Farm, Longfellow and Prison Point.

As there is no separate appropriation made for the City of Boston's portion of the expenses of this Commission, the same is taken from the appropriation for the Bridge and Ferry Division, Bridge Service. The amount expended during the fiscal year ending December 31, 1940, under the regular appropriation, was \$4,962.78. Under the appropriation for "Bridges, Repairs, Etc.," \$433.23 was paid the John McCourt Company for furnishing and placing sheet asphalt pavement on approach to Cottage Farm Bridge, northerly from Commonwealth avenue.

Respectfully submitted,

GEORGE G. HYLAND,
Commissioner for the City of Boston.

**Boston and Cambridge Bridges. Expenditures for the Year Ending
December 31, 1940.**

Being the Portion Paid by the City of Boston, Which is One Half of the Total Expenditure

	Administration.	Cottage Farm Bridge.	Longfellow Bridge.	Prison Point Bridge.	Totals.
Salaries.....	\$50 00	.....	\$1,570 00	.....	\$1,620 00
Inspection		\$194 00	204 00	\$208 00	606 00
Light.....		870 96	1,720 95	.....	2,591 91
Rent.....		.....	39 00	.....	39 00
Printing and stationery.....	9 75	9 75
Repairs.....		96 12	96 12
Totals.....	\$59 75	\$1,161 08	\$3,533 95	\$208 00	\$4,962 78

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ANNUAL REPORT
OF THE
PUBLIC WORKS DEPARTMENT
FOR THE YEAR 1941
[DOCUMENT 24—1942]

Boston City, 6-10-1880

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